Dialogic® PowerMedia® XMS Release 3.5

Release Notes

April 2021 05-2750-024

www.dialogic.com

Copyright and Legal Notice

All contents of this document are furnished for informational use only and are subject to change without notice and do not represent a commitment on the part of Enghouse and its affiliates or subsidiaries ("Enghouse"). Reasonable effort is made to ensure the accuracy of the information contained in the document. However, Enghouse does not warrant the accuracy of this information and cannot accept responsibility for errors, inaccuracies or omissions that may be contained in this document.

INFORMATION IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH DIALOGIC® PRODUCTS. NO LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE, TO ANY INTELLECTUAL PROPERTY RIGHTS IS GRANTED BY THIS DOCUMENT. EXCEPT AS PROVIDED IN A SIGNED AGREEMENT BETWEEN YOU AND ENGHOUSE, ENGHOUSE ASSUMES NO LIABILITY WHATSOEVER, AND ENGHOUSE DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY, RELATING TO SALE AND/OR USE OF ENGHOUSE PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHT OF A THIRD PARTY.

Enghouse products are not intended for use in certain safety-affecting situations.

Due to differing national regulations and approval requirements, certain Enghouse products may be suitable for use only in specific countries, and thus may not function properly in other countries. You are responsible for ensuring that your use of such products occurs only in the countries where such use is suitable. For information on specific products, contact Enghouse at legal.operations@enghouse.com

It is possible that the use or implementation of any one of the concepts, applications, or ideas described in this document, in marketing collateral produced by or on web pages maintained by Enghouse may infringe one or more patents or other intellectual property rights owned by third parties. Enghouse does not provide any intellectual property licenses with the sale of Enghouse products other than a license to use such product in accordance with intellectual property owned or validly licensed by Enghouse and no such licenses are provided except pursuant to a signed agreement with Enghouse. More detailed information about such intellectual property is available from Enghouse's legal department at **80 Tiverton Court, Suite 800 Markham, Ontario L3R 0G4**.

Enghouse encourages all users of its products to procure all necessary intellectual property licenses required to implement any concepts or applications and does not condone or encourage any intellectual property infringement and disclaims any responsibility related thereto. These intellectual property licenses may differ from country to country and it is the responsibility of those who develop the concepts or applications to be aware of and comply with different national license requirements.

Dialogic, Dialogic Pro, DialogicOne, Dialogic Buzz, Brooktrout, BorderNet, PowerMedia, PowerVille, PowerNova, ControlSwitch, I-Gate, Veraz, Cantata, TruFax, and NMS Communications, among others as well as related logos, are either registered trademarks or trademarks of Enghouse and its affiliates or subsidiaries. Enghouse's trademarks may be used publicly only with permission from Enghouse. Such permission may only be granted by Enghouse legal department at **80 Tiverton Court, Suite 800 Markham, Ontario L3R 0G4**. Any authorized use of Enghouse's trademarks will be subject to full respect of the trademark guidelines published by Enghouse from time to time and any use of Enghouse's trademarks requires proper acknowledgement.

The names of actual companies and products mentioned herein are the trademarks of their respective owners.

This document discusses one or more open source products, systems and/or releases. Enghouse is not responsible for your decision to use open source in connection with Enghouse products (including without limitation those referred to herein), nor is Enghouse responsible for any present or future effects such usage might have, including without limitation effects on your products, your business, or your intellectual property rights.

Table of Contents

1. Welcome 12
2. Overview 13
PowerMedia XMS 13
PowerMedia MRB 14
Related Information 15
3. Related Documentation 16
4. System Requirements 19
Supported Virtual Machines 20
Cloud Environments 20
5. Release Features 21
PowerMedia XMS Release 3.5 21
Encrypted Recording 21
Enhanced Voice Services (EVS) Codec 22
Codec Configuration 23
Configurable Password Policy 23
PowerMedia MRB Enhancements 24
Video Enhancements 24
Controlled Introduction Features 25
Previous Releases 25
6. Controlled Introduction Features 26
Selective Forwarding Unit (SFU) 26
Video Encoder Sharing Support 27
VP9 Video Codec 27
CDR Remote Database 27
7. Installation 28
ISO Method 28
RPM Method 28
8. Upgrading 29
9. Configuration 30
PowerMedia XMS Admin Console 30
RESTful Management API 30
10. Licensing 31
Verification License 31
Applicable Third Party License Information 31
11. Logging 32
12. Post-Release Developments 33
PowerMedia XMS Release 3.5 Service Update 33
Port Configuration for XMS Monitoring subsystem 33
Fax Page Quality Thresholds 33
Call Identifiers in RESTful API Error Responses 33
PowerMedia MRB Management Interface Update 33
MS Enabled SIP Timer 34
PowerMedia XMS Release 3.5 Service Update 7 34
Key Performance Indicator (KPI) Collection/Reporting 34
V.34 / T.38 Fax Support 34
PowerMedia MRB AWS Support 34
High Capacity Video Session Record 35

Multitrack Recording 35
MSML MOML Event Configuration (Suppress moml.exit) 36
Auto-Save Undelivered Recording 36
Manual Mode for Service Startup 36
Independent SIP and Media NAT Configuration 37
13. Release Issues 38
Limitations 38
Changes and Considerations 39
Issues Table 40
PowerMedia XMS 41

Revision History

This section summarizes the changes made in this and, if applicable, each previously published version of the Release Notes for PowerMedia XMS Release 3.5, which is a document that is planned to be periodically updated throughout the lifetime of the release.

Revision	Release Date	Notes
05-2750-024	April 2021	Copyright and Legal Notice: Revised the copyright and logo per Enghouse. Release Issues: • Added the following XMS Resolved Defects: XMS-14189, XMS-14132, XMS-14120, XMS-14042, XMS-13920, XMS-13880, XMS-13669, XMS-13470, XMS-13346, XMS-13342.
05-2750-023	May 2020	Updates to support PowerMedia XMS Release 3.5 Service Update 22 (Build 26986). Post-Release Developments: • Added Port Configuration for XMS Monitoring subsystem Release Issues: • Added the following XMS Resolved Defects: XMS-13346, XMS-13320, XMS-13291, XMS-13273, XMS-13272, XMS-13207, XMS-13202, XMS-13155.
05-2750-022	April 2020	Updates to support PowerMedia XMS Release 3.5 Service Update 21 (Build 26573). Release Issues: • Added the following XMS Resolved Defects: XMS-13029, XMS-13022, XMS-12989, XMS-12988, XMS-12875.
05-2750-021	February 2020	Updates to support PowerMedia XMS Release 3.5 Service Update 20 (Build 26213). System Requirements: Updated the Operating System section. Release Issues: • Added the following XMS Resolved Defects: XMS-12817, XMS-12812, XMS-12781, XMS-12771, XMS-9833
05-2750-020 (Updated)	January 2020	Release Issues: • Added the following XMS Resolved Defects: XMS-10357.

Revision	Release Date	Notes
		Note: XMS-10357 was resolved in PowerMedia XMS Release 3.5 Service Update 10 (Build 21660).
05-2750-020	December 2019	Updates to support PowerMedia XMS Release 3.5 Service Update 19 (Build 25667). Release Issues: • Added the following XMS Resolved Defects: XMS-9904, XMS-11953, XMS-11998, XMS-12027, XMS-12090, XMS-12104, XMS-12122, XMS-12129, XMS-12147, XMS-12178, XMS-12179, XMS-12407, XMS-12488, XMS-12578.
05-2750-019	September 2019	Updates to support PowerMedia XMS Release 3.5 Service Update 18 (Build 24624). Release Issues: • Added the following XMS Resolved Defects: XMS-11588, XMS-11605, XMS-11838, XMS-11849, XMS-11952, XMS-12004, XMS-12027.
05-2750-018	July 2019	Updates to support PowerMedia XMS Release 3.5 Service Update 17 (Build 24038). System Requirements: Updated the Operating System section. Post-Release Developments: • Added Fax Page Quality Thresholds. • Added Call Identifiers in RESTful API Error Responses. • Added PowerMedia MRB Management Interface Update. Release Issues: • Added the following XMS Resolved Defects: XMS-11023, XMS-11511, XMS-11601, XMS-11645. **Note:** The upgrade process has changed when upgrading PowerMedia MRB from an older version to mrb 3.5.17 or later. Please follow the upgrade procedure documented in the *Dialogic® PowerMedia™ MRB Installation and Configuration Guide* when upgrading from a previous version of the PowerMedia MRB, such as mrb 3.5.5, to version mrb 3.5.17 or later.

Revision	Release Date	Notes
05-2750-017	May 2019	Updates to support PowerMedia XMS Release 3.5 Service Update 16 (Build 23752). Release Issues: • Added the following XMS Resolved Defects: XMS-11503, XMS-11510, XMS-11521.
05-2750-016	May 2019	Updates to support PowerMedia XMS Release 3.5 Service Update 15 (Build 23691). Post-Release Developments: • Added MS Enabled SIP Timer. Release Issues: • Added the following XMS Resolved Defects: XMS-9306, XMS-10582, XMS-10775, XMS-10776, XMS-10883, XMS-10948, XMS-10999, XMS-11102, XMS-11169, XMS-11209, XMS-11250, XMS-11251, XMS-11265, XMS-11295, XMS-11460. • Added the following XMS Known Issues: XMS-11297, XMS-11510, XMS-11521.
05-2750-015	April 2019	Updates to support PowerMedia XMS Release 3.5 Service Update 14 (Build 23276). Release Issues: • Added Google Chrome 74 Compatibility Update in the Changes and Considerations section. • Added the following XMS Resolved Defects: XMS-10887, XMS-10916, XMS-10941, XMS-10967, XMS-11177, XMS-11193, XMS-11194, XMS-11212, XMS-11238.
05-2750-014	February 2019	Updates to support PowerMedia XMS Release 3.5 Service Update 13 (Build 22836). Release Issues: • Added the following XMS Resolved Defects: XMS-10650, XMS-10790, XMS-10861, XMS-10916, XMS-10920.
05-2750-013	January 2019	Updates to support PowerMedia XMS Release 3.5 Service Update 12 (Build 22494). Release Issues: • Added the following XMS Resolved Defects: XMS-9729, XMS-10610, XMS-10660, XMS-10696, XMS-10738, XMS-10751, XMS-10761, XMS-10777, XMS-10778, XMS-10798, XMS-10804.

Revision	Release Date	Notes
05-2750-012 (Updated)	January 2019	Release Issues: • Added the following XMS Known (permanent) Issues: XMS-10720.
05-2750-012	December 2018	Updates to support PowerMedia XMS Release 3.5 Service Update 11 (Build 22155). System Requirements: Added note in the Operating System section. Release Issues: • Added the following XMS Resolved Defects: XMS-10316, XMS-10376, XMS-10478, XMS-10481, XMS-10525, XMS-10526, XMS-10528, XMS-10560.
05-2750-011	November 2018	Updates to support PowerMedia XMS Release 3.5 Service Update 10 (Build 21660). Release Issues: • Added the following XMS Resolved Defects: XMS-9968, XMS-10118, XMS-10214, XMS-10263, XMS-10430, XMS-10462.
05-2750-010	October 2018	Updates to support PowerMedia XMS Release 3.5 Service Update 9 (Build 21546). Release Issues: • Added the following XMS Resolved Defects: XMS-10015, XMS-10200, XMS-10223, XMS-10328, XMS-10347, XMS-10437. • Added the following XMS Known Issues: XMS-9968, XMS-10430, XMS-10462.
05-2750-009	September 2018	Updates to support PowerMedia XMS Release 3.5 Service Update 8 (Build 21019). Release Issues: • Added the following XMS Resolved Defects: XMS-7478, XMS-8841, XMS-8877, XMS-9274, XMS-9431, XMS-9434, XMS-9436, XMS-9505, XMS-9511, XMS-9530, XMS-9646, XMS-9682, XMS-9793, XMS-9820, XMS-9981, XMS-9987, XMS-9988, XMS-10108. • Added the following XMS Known Issues: XMS-10144, XMS-10153.
05-2750-008	May 2018	Updates to support PowerMedia XMS Release 3.5 Service Update 7 (Build 20036). Release Features: Updated the section.

Revision	Release Date	Notes
		Controlled Introduction Features: Updated the section. Post-Release Developments: • Added PowerMedia XMS Release 3.5 Service Update 7 and generally available features and functionality. Release Issues: • Added the following XMS Resolved Defects: XMS-8940, XMS-8942, XMS-8981, XMS-9007, XMS-9016, XMS-9095, XMS-9231, XMS-9316, XMS-9344, XMS-9345.
05-2750-007	May 2018	Updates to support PowerMedia XMS Release 3.5 Service Update 6 (Build 19887). Release Issues: • Added the following XMS Resolved Defects: XMS-8756, XMS-9072, XMS-9164, XMS-9182.
05-2750-006	May 2018	Updates to support PowerMedia XMS Release 3.5 Service Update 5 (Build 19823). Related Documentation: Updated the section. Post-Release Developments: • Added MSML MOML Event Configuration (Suppress moml.exit). Release Issues: • Added the following XMS Resolved Defects: XMS-8504, XMS-8709, XMS-8733, XMS-8772, XMS-8791, XMS-8812, XMS-8814, XMS-8825, XMS-8839, XMS-8850, XMS-8858, XMS-8863, XMS-8868, XMS-8880, XMS-8910, XMS-8939, XMS-8941, XMS-9004, XMS-9085, XMS-9094. • Added the following XMS Known Issues: XMS-8965. • Added the following XMS Known (permanent) Issues: XMS-8931.
05-2750-005	March 2018	Updates to support PowerMedia XMS Release 3.5 Service Update 4 (Build 19252). Release Issues: • Added the following XMS Resolved Defects: XMS-8142, XMS-8159, XMS-8184, XMS-8436, XMS-8539, XMS-8557,

Revision	Release Date	Notes
		XMS-8589, XMS-8625, XMS-8640, XMS-8643, XMS-8710. • Added the following XMS Known Issues: XMS-8779.
05-2750-004 (Updated)	February 2018	Release Issues: • Added the following XMS Known (permanent) Issues: XMS-7650.
05-2750-004	January 2018	Updates to support PowerMedia XMS Release 3.5 Service Update 3 (Build 18918). Release Issues: • Added the following XMS Resolved Defects: XMS-7508, XMS-8142, XMS-8251, XMS-8253, XMS-8255, XMS-8262, XMS-8270, XMS-8274, XMS-8275, XMS-8277, XMS-8278, XMS-8313, XMS-8331, XMS-8366, XMS-8371, XMS-8375, XMS-8392, XMS-8442, XMS-8450.
05-2750-003	December 2017	Updates to support PowerMedia XMS Release 3.5 Service Update 2 (Build 18534). Post-Release Developments: • Added Auto-Save Undelivered Recording. • Added Manual Mode for Service Startup. Release Issues: • Added the following XMS Resolved Defects: XMS-7859, XMS-8027, XMS-8119, XMS-8123.
05-2750-002	November 2017	Updates to support PowerMedia XMS Release 3.5 Service Update 1 (Build 18278). Post-Release Developments: • Added PowerMedia XMS Release 3.5 Service Update. • Added Independent SIP and Media NAT Configuration. Release Issues: • Updated the Changes and Considerations section. • Added the following XMS Resolved Defects: 303088, 309452, 309649, 309925, 310530, 310541, 310558, 310635, 310769, 310822, XMS-6910, XMS-7051, XMS-7208, XMS-7258, XMS-7266, XMS-7668,

Revision	Release Date	Notes
		XMS-7708, XMS-7858, XMS-7902, XMS-7909, XMS-7915, XMS-7916, XMS-7917, XMS-7920, XMS-7922. • Added the following XMS Known Issues: XMS-8070. • Added the following XMS Known (permanent) Issues: XMS-7764, XMS-7907.
05-2750-001 (Updated	November 2017	Release Features: Added the MCU Default Aspect Mode section and updated the Configurable Password Policy section. Release Issues: Updated the Changes and Considerations section.
05-2750-001	October 2017	Initial release of this document.

Refer to www.dialogic.com for product updates and for information about support policies, warranty information, and service offerings.

1. Welcome

These release notes address new features and issues associated with the Dialogic® PowerMedia® Extended Media Server (also referred to herein as "PowerMedia XMS" or "XMS") Release 3.5. This is a document that is planned to be periodically updated throughout the lifetime of the release.

The release notes are organized into the following sections (click the section name to jump to the corresponding section):

- Overview: This section provides an overview of this release.
- Related Documentation: This section provides information about the documentation that supports this release.
- System Requirements: This section describes the system requirements for this release.
- Release Features: This section describes the new features and functionality in this release.
- Controlled Introduction Features: This section describes the new controlled introduction features and functionality in this release.
- Installation: This section provides installation information that is useful for getting started with this release.
- Upgrading: This section provides upgrading information that is useful for getting started with this release.
- Configuration: This section provides configuration information that is useful for getting started with this release.
- Licensing: This section provides licensing information that is useful for getting started with this release.
- Logging: This section provides logging information that is useful for getting started with this release.
- Post-Release Developments: This section describes significant changes to this release subsequent to the general availability release date.
- Release Issues: This section lists the issues that may affect this release.

2. Overview

Dialogic® PowerMedia® Extended Media Server (also referred to herein as "PowerMedia XMS" or "XMS") is a highly scalable, software-only media server that enables standards-based, real-time multimedia communications solutions for IMS, MRF, Enterprise, and WebRTC applications on premise or in the cloud. Built on 15+ years of software media processing experience, PowerMedia XMS is trusted by world-class service providers and large enterprises to power millions of rich media sessions.

With an extensive list of successful implementations that include MRF for VoLTE, carrier hosted contact centers, enterprise communications, voice messaging, and "mission critical" next-generation 911 services, PowerMedia XMS has proven to be a key building block to new and innovative applications. When deployed with the optional Dialogic® PowerMedia® Media Resource Broker (also referred to herein as "PowerMedia MRB"), PowerMedia XMS scales to meet growing service-provider and business requirements.

PowerMedia XMS

PowerMedia XMS energizes application delivery by boosting performance with:

- State of the art mixing of media-rich communications
- Software providing a seamless transition to virtualization and cloud delivery
- Telco hardened scalability
- Supercharged WebRTC integration

PowerMedia XMS elevates what developers can create for their customers, from virtually any development environment, on virtually any network, and connecting to virtually any type of communication endpoint.

PowerMedia XMS is a powerful next-generation software-only media server or software Media Resource Function (MRF) IMS network element that enables standards-based, real-time multimedia communications solutions for SIP and WebRTC for mobile and broadband environments. PowerMedia XMS enables high density real-time multimedia communication functions including inbound and outbound session/call control, audio/video play and record, transcoding, transrating, transizing of video streams, multimedia conference mixing, content streaming, and a wide range of advanced supporting functions for communication sessions.

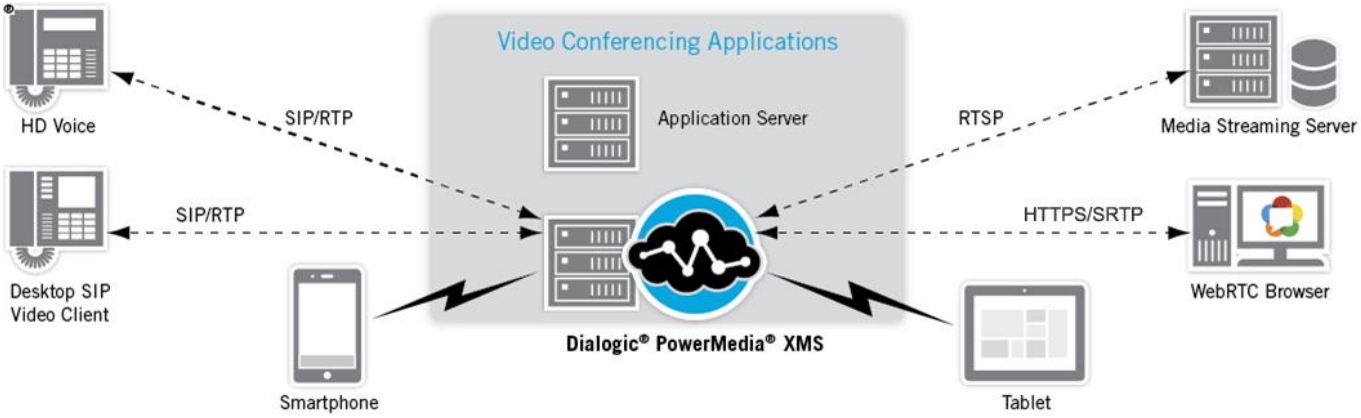
PowerMedia XMS is controlled by the business logic of applications deployed on SIP application servers and web application servers. PowerMedia XMS offers multiple media control protocols that can be used in a variety of network infrastructures. For example, a SIP application server (AS) can drive PowerMedia XMS using the MSML control interface or use the VoiceXML (VXML) browser in PowerMedia XMS to execute VXML scripts and invoke MRCP speech services, like ASR and TTS. For Web 2.0 and Cloud development, a web application written in an appropriate language can control PowerMedia XMS using the HTTP RESTful interface. Similarly, the JSR 309 Connector for PowerMedia XMS can enable Java EE developers to control real-time applications from converged application servers.

PowerMedia XMS supports multimedia audio and video, using a variety of codecs. It also provides support for handling RTP media, security (via DTLS/SRTP), and ICE negotiation from WebRTC media sources. Please refer to specific media control protocol documentation for the more detail Media Server feature coverage / support.

PowerMedia XMS provides powerful and user-friendly OA&M functionality and can be managed remotely through a web-based operator console and the HTTP RESTful Management Interface.

A wide variety of SIP endpoints can be handled by PowerMedia XMS, resulting in the delivery of rich full-duplex audio and video media streams to a variety of fixed and mobile devices. With the additional support for WebRTC media, PowerMedia XMS provides the power to mix diverse streams and enable connectivity between legacy networks, endpoints, and WebRTC.

The following figure illustrates an example of a video conferencing delivery platform for a PowerMedia XMS-based multimedia conferencing solution.



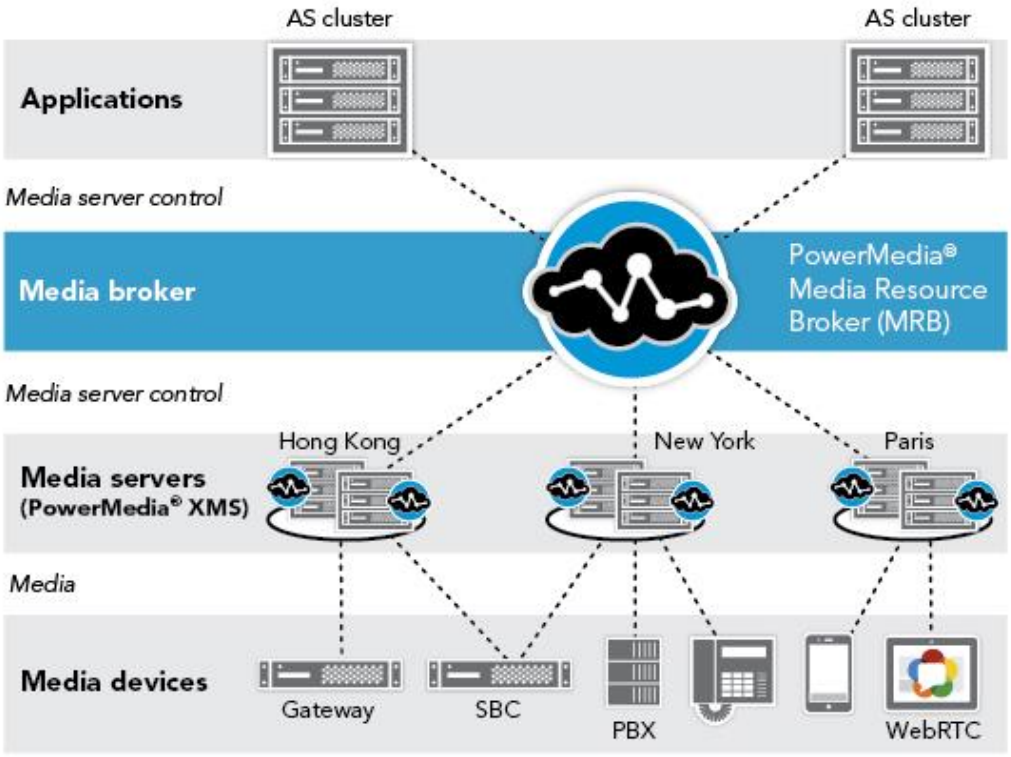
PowerMedia MRB

PowerMedia MRB is a standardized network element, defined by RFC 6917, that manages media resource availability and reliability, providing improved utilization and reliability of deployed media resources in the network. As defined in MRB specifications, the PowerMedia MRB performs critical media resource management functions, including:

- Balancing requests from multiple application servers or app server clusters
- Efficiently utilizing and allocating the Media Resource Function (MRF) and Media Server (MS) resource pools
- Providing a monitoring mechanism for media server status and capabilities
- Supporting media control payloads such as MSML, JSR 309, NETANN, and RESTful

Clustering of the PowerMedia XMS instances to support higher density and scalability requirements is supported by the PowerMedia MRB. It is designed to handle large transaction rates and can effectively and efficiently load balance the traffic among available PowerMedia XMS instances (MRFs) including those instances located in different geographic regions. The PowerMedia MRB is implemented to be a stateful load balancer and actively monitors and tracks capacity and availability of individual PowerMedia XMS instances. Since the PowerMedia MRB is stateful, it can also support real-time call preservation of conference calls and bridged calls. In case of failure, the PowerMedia MRB can dynamically restore established media sessions to an alternate PowerMedia XMS instance, providing continuity of service.

The following figure illustrates the role of the PowerMedia MRB to manage PowerMedia XMS resources among various geographic sites.



Related Information

See the following for additional information:

- PowerMedia XMS product page at http://www.dialogic.com/xms.
- PowerMedia XMS datasheet at http://www.dialogic.com/~/media/products/docs/media-server-software/12888-powermedia-xms-ds.pdf.
- PowerMedia MRB datasheet at http://www.dialogic.com/~/media/products/docs/media-server-software/14160-powermediamrb-ds.pdf.
- PowerMedia XMS Developer portal at http://www.dialogic.com/developer.
- PowerMedia XMS Release 3.5 documentation at http://www.dialogic.com/manuals/xms/xms3-5.
- Dialogic Service Center at http://www.dialogic.com/support.

3. Related Documentation

This section provides information about the documentation that supports the PowerMedia XMS Release 3.5.

The following documents are available for the PowerMedia XMS Release 3.5 at http://www.dialogic.com/manuals/xms/xms3-5.

Document	Description
PowerMedia XMS	
Dialogic® PowerMedia® XMS Release 3.5 Release Notes	Addresses new features and issues associated with PowerMedia XMS Release 3.5.
Dialogic® PowerMedia™ XMS Quick Start Guide	Describes how to install software, access the PowerMedia XMS Admin Console for configuration management, and run the verification demo.
Dialogic® PowerMedia™ XMS Installation and Configuration Guide	Provides instructions for installing, configuring, administering, and maintaining PowerMedia XMS.
Dialogic® PowerMedia™ XMS WebRTC Demo Guide	Provides instructions for running WebRTC demos with PowerMedia XMS.
Dialogic® PowerMedia™ XMS Basic Network Media Services with SIP User's Guide	Provides detailed information about configuring Basic Network Media Services with SIP, focusing on Network Announcement (NETANN).
Dialogic® PowerMedia™ XMS Message Session Relay Protocol Feature Guide	Describes the Message Session Relay Protocol (MSRP), which is a session-oriented instant messaging protocol used to provide peer-to-peer file transfer, photo sharing, or chat services.

Document	Description
Dialogic® PowerMedia™ XMS MSML Media Server Software User's Guide	Provides guidelines for using the Media Sessions Markup Language (MSML) software. The MSML media server software enables a remote client, also known as an Application Server (AS), to control media resources on a media server (MS). The connection between the AS and MS is established using the SIP protocol, thereafter media control commands/responses (in the form of MSML control syntax) are exchanged in SIP messages, such as the INFO message or the 200 OK response.
Dialogic® PowerMedia™ XMS RESTful API User's Guide	Provides information for application developers using RESTful API over http transport to control media and call control resources of PowerMedia XMS.
Dialogic® PowerMedia™ XMS RESTful Management API User's Guide	Provides an alternative method of performing PowerMedia XMS system management tasks in an automated or distributed manner.
Dialogic® PowerMedia™ XMS Variable Content Announcements Feature Guide	Describes how to use variable content announcements for multiple languages in PowerMedia XMS.
Dialogic® PowerMedia™ XMS VoiceXML Reference Guide	Contains an alphabetical reference of supported VoiceXML elements and provides information about application properties, SSML support, session variables, and application variables.
Dialogic® PowerMedia™ XMS WebRTC JavaScript API User's Guide	Provides information on functionality to support connecting to and performing media operations on Web Real-Time Communication (WebRTC) compliant devices or endpoints (for example, browsers) with PowerMedia XMS.
Dialogic® PowerMedia™ XMS Diagnostics Guide	Provides information on gathering diagnostics to troubleshoot PowerMedia XMS issues.
PowerMedia MRB	
Dialogic® PowerMedia™ Media Resource Broker (MRB) Quick Start Guide	Describes how to install software and configure the PowerMedia MRB to initiate a working test setup.

Document	Description
Dialogic® PowerMedia™ Media Resource Broker (MRB) Installation and Configuration Guide	Provides instructions for installing and configuring the PowerMedia MRB.
Dialogic® PowerMedia™ Media Resource Broker (MRB) Technology Guide	Provides an overview of the PowerMedia MRB and its capabilities.
JSR 309 Connector	
Dialogic® PowerMedia™ XMS JSR 309 Connector Software Installation and Configuration Guide	Provides the JSR 309 Connector installation and configuration information for the supported platforms. • Oracle Communications Converged Application Server (version 7) • TeleStax JBoss Application Server
Dialogic® PowerMedia™ XMS JSR 309 Connector Software Developer's Guide	Describes any extensions added to the JSR 309 Connector (based on JSR 309 specification) in addition to which methods/parameters are supported.
Application Notes	
Dialogic® PowerMedia™ XMS Application Note: Optimizing VMware Host Hardware and Virtual Machine to Reduce Latency	Provides instructions on optimizing VMware ESXi, server settings, and Virtual Machine (VM) guest machines to reduce latency prior to installing PowerMedia XMS.
Dialogic® PowerMedia™ XMS Application Note: Running PowerMedia XMS on Amazon Web Services	Provides instructions on running PowerMedia XMS on Amazon Web Services (AWS) Elastic Compute Cloud (EC2) and Virtual Private Cloud (VPC).
Dialogic® PowerMedia™ MRB Application Note: Running PowerMedia XMS on Amazon Web Services	Provides instructions on running PowerMedia MRB on Amazon Web Services (AWS) Elastic Compute Cloud (EC2).

4. System Requirements

This section describes the system requirements for the PowerMedia XMS Release 3.5.

The **minimum** and **recommended** system requirements are as follows:

Item	Requirement
Hardware	Intel Architecture-based server
Operating System	**Note:** 32-bit operating systems are not supported. **ISO Method Installation:** Community ENTerprise Operating System (CentOS) 7.x **RPM Method Installation:** • CentOS 7.x and 6.4 (or later) • Red Hat Enterprise Linux (RHEL) 7.x and 6.4 (or later) • Oracle Linux 6.4 • Oracle Linux 7.2 with Unbreakable Enterprise Kernel (UEK) Release 4 Before running the RPM Method installation, the following packages, available from the OS distributor, must first be installed: • perl-core • perl-Crypt-OpenSSL-Random • openssl version 1.0.1e or higher • httpd-2.2.15-60.el6.centos.4.x86_64 or higher **Note:** The WebGUI requires a minimum version of TLS 1.2. If using CentOS 6.x, please ensure that the installed version of httpd is *httpd-2.2.15-60.el6.centos.4.x86_64* or higher. If the CentOS 6.x httpd package is not updated, the XMS installation logs will indicate that "httpd may fail to start" and the WebGUI will be unresponsive. The failure message will also appear in */var/log/messages* when trying to start httpd or reboot the system. **Note:** If using VXML and CentOS/RHEL 7.x, please ensure that the installed version of js is *js-1.8.5-20.el7.x86_64* or higher. This affects PowerMedia XMS Release 3.5 Service Update 11 or later.
Processor	**Minimum:** Intel Xeon E5-1620 Quad-Core (3.60 GHz, 1600 MHz, 10 MB Cache), Intel QPI (0 GT/s) for low end solutions **Recommended:** Intel Xeon E5-2665 Dual Octal-Core (2.40 GHz, 1333 MHz, 20 MB Cache), 2 Intel QPI (8 GT/s) or better for performance systems
Ethernet	Single or Dual NIC 1000Base-TX (RJ-45)

Item	Requirement
Memory	**Minimum:** 12 GB RAM **Recommended:** • 16 GB RAM or higher (high density audio) • 24 GB RAM or higher (video)
Storage	**Minimum:** 60 GB HDD **Recommended:** 250 GB HDD up to 2 TB HDD for advanced logging
Note: The recommended server configuration is applicable for higher density audio solutions of 1500 or greater sessions, video transcoding solutions, or solutions utilizing virtualization.	

Supported Virtual Machines

The supported virtual machines (VM) are as follows:

- VMWare ESXi 5.x and ESXi 6.x
- Kernel Virtual Machine (KVM)
- Oracle VM
- XenServer VM

It is recommended to use two VMs when running XMS. If more than two VMs are used, there may be performance issues.

Note: Virtualization systems chosen for PowerMedia XMS should be configured for enterprise or private virtual environments that permit customization of virtual machine (VM) settings and hypervisor performance tuning. Virtual environments running PowerMedia XMS must also restrict the number of VMs hosted on a single platform to facilitate the real-time low-latency scheduling demands required for high quality media processing. Density capacity in virtual environments may vary and is generally a factor of the host platform capacity and the number of VMs running PowerMedia XMS. Generally, the aggregate density of all VMs running PowerMedia XMS will be less than the bare metal capacity of the platform.

Refer to the *Dialogic® PowerMedia™ XMS Application Note: Optimizing VMware Host Hardware and Virtual Machine to Reduce Latency* for more information.

Cloud Environments

The qualified cloud environments include the following:

- Amazon Web Services (AWS)

Note: Refer to the *Dialogic® PowerMedia™ XMS Application Note: Running PowerMedia XMS on Amazon Web Services* for more information.

Support for Rackspace is available as a controlled introduction for Proof of Concept (PoC), development activities, and trials. For more information, refer to the following white paper:

- *Dialogic® PowerMedia™ XMS and the Rackspace Managed Cloud* at http://www.dialogic.com/~/media/products/media-server-software/download/xms-demos/Rackspace-XMS-Verification.pdf.

5. Release Features

This section describes the features and functionality supported in the PowerMedia XMS Release 3.5.

For more information, refer to the documents listed in the Related Documentation section.

PowerMedia XMS Release 3.5

The key new features and functionality include:

- Encrypted Recording
- Enhanced Voice Services (EVS) Codec
- Codec Configuration
  - Codec Profiles
  - Default Codec Configuration
- Configurable Password Policy
- PowerMedia MRB Enhancements
  - X-Call-Group Steering
  - RESTful API "resource_moved" Event
- Video Enhancements
  - MCU Portrait Root Sizes
  - MCU Default Aspect Mode
  - MSML Title Caption
- Controlled Introduction Features
  - CVO Support

Encrypted Recording

PowerMedia XMS Release 3.5 adds support for Encrypted Recording of audio and video files. Many applications, such as client/agent interactions at financial institutions, require encrypted recording to protect the recorded conversations. Encrypted Recording is designed to provide secure recording capability within XMS so that recorded files are encrypted as they are stored, and the encryption key is secured by RSA key pair provided by the application. XMS will securely encrypt the file as it writes encoded data to the disk and at no time is unencrypted data written to the disk.

The Encrypted Recording feature is available with the RESTful and MSML API. With this feature, the XMS Record API is updated to allow the application to request an encrypted recording and provide a public key with the record function so the encryption key is returned securely to the application. The encrypted recording can only be decrypted by the client application that maintains the private/public key pair. Encrypted Recording is supported with the following file formats: WebM (.webm) and MKV(.mkv) for audio only and multimedia files.

Note: Encrypted Recording is provided for secure capture and writing of sensitive audio and video recordings so that playback is only possible with proper authorization. Files and encryption keys are secured based on application provided RSA 2048 key pairs. After secure recording, an application can decrypt the recorded file off-line for playback using the RSA private key and commercially available decryption tools. XMS API playback of encrypted record files is not supported.

Enhanced Voice Services (EVS) Codec

PowerMedia XMS Release 3.5 adds support for the EVS codec, the next-generation audio codec defined by the 3rd Generation Partnership Project (3GPP) for Enhanced Voice Services (EVS) in LTE networks*.

*The EVS codec is specified by the 3GPP documents TS 26.441 through TS 26.451, along with IMS Multimedia telephony media handling and interaction for EVS defined in TS 26.445 and TS 26.114.

The EVS codec is a conversational codec that offers up to 20kHz audio bandwidth that can be utilized for Narrowband (NB), Wideband (WB), Super-wideband (SWB) and Full-Band (FB) voice frequency ranges. It is optimized to provide high quality and efficiency across a wide range of voice services for telephony, conferencing and audio-visual application scenarios. In 3GPP IMS networks, the EVS codec is the successor of the current mobile HD Voice codec, AMR-WB, and includes an enhanced AMR-WB Inter-Operational mode (AMR-WB IO mode) compatible with the AMR-WB codec over all nine operational bitrates. In this AMR-WB IO mode, the EVS codec can be used as an alternative implementation of the AMR-WB codec. As the latest codec defined by the 3GPP, the EVS codec is an important addition for Service Provider or Telco Equipment Manufacturers (TEM) looking to provide media services for next generation IMS compliant mobile audio services.

EVS codec support includes enabling support for call establishment using the EVS codec and providing MRF functionality to those endpoints. The EVS codec has been integrated in XMS for RTP streaming, announcement play, call record, HD Voice conferencing and audio transcoding. The EVS codec can be enabled in XMS through the WebGUI by enabling the codec support in the XMS codec list. It is supported with all XMS API, including RESTful, MSML, NETANN, VXML, and JSR 309.

Dialogic is a licensee of the EVS Patent Portfolio administered by MPEGLA.

Highlights of the EVS codec implementation include:

- Compliant EVS implementation of 3GPP specifications (TS 26.441-26.451).
- Compliance to 3GPP specifications (TS 26.445 and TS 26.114) mandatory requirements for SDP negotiation with IMS EVS endpoints.
- Support for both EVS Primary and AMR-WB IO modes.
- Support for compact and header-full packetization formats.
- Support for negotiation of all EVS RTP bitrates (NB, WB, SWB, FB).
- Support for NB and WB voice range for media transcoding and conferencing.
- Addition of EVS (.evs) file format container for play/record, including native EVS record.
- Support for transcoding between EVS and other system supported codecs and file formats.

The EVS codec can be enabled/disabled and order prioritized in the audio codec list through the WebGUI, refer to the *Dialogic® PowerMedia™ XMS Installation and Configuration Guide* for more information.

Codec Configuration

Codec Profiles

PowerMedia XMS Release 3.5 enhances codec configuration with the addition of Codec Profiles. Codec Profiles are configured through the WebGUI and provide a method to define a named codec priority list of enabled/disabled codecs and associated parameters. The codec profile can be used to control the default offer SDP selection of codecs, codec parameters and codec priority ordering through XMS API on call-by-call basis. The named codec profiles are supported in MSML, RESTful, and VXML to specify a codec profile to utilize as the answer SDP. The codec profiles can be used to select a different priority order of codecs or parameter set on inbound or outbound calls.

Default Codec Configuration

PowerMedia XMS Release 3.5 includes default codec configuration parameters for certain audio codecs through the WebGUI. The default codec configuration is used to guide the codec SDP characteristics that are returned by XMS in SDP responses, such as for specific payload type. The default codec parameters would also be used on null Invite SDP responses that may be used as offer SDP by B2BUA applications.

Codec configuration exposed through the WebGUI in this release includes:

- **AMR-NB:** Configurable payload type, mode-set, and octet align parameters.
- **AMR-WB:** Configurable payload type, mode-set, and octet align parameters.
- **Opus, EVS, GSM-EFR, iLBC, G726:** Configurable payload type.
- **H264:** Configurable payload type, packetization mode.
- **VP8, VP9, MP4V-ES, H263-2000, H263-1998:** Configurable payload type.
- **Telephone Event:** Configurable payload type parameter.

For more information, refer to the *Dialogic® PowerMedia™ XMS Installation and Configuration Guide*.

Configurable Password Policy

PowerMedia XMS Release 3.5 provides the ability to configure a customized Password Policy through the WebGUI configuration. With this feature, customers can enable password policy considerations to define the rules that govern user password usage and validation guidelines. For example, this feature allows customization of minimum and maximum password lengths, password expiration timeout period, and enforcement of required password character categories, such as digits, lowercase, uppercase, or special characters.

Refer to the *Dialogic® PowerMedia™ XMS Installation and Configuration Guide* for more information.

Note: The configurable Password Policy feature was introduced as a security update to older XMS release lines, starting with XMS 3.1 Service Updates and is now a standard feature in XMS 3.5. Once XMS 3.5 is installed, the system will be converted to use the new password policy feature, and users **must** upgrade only to other release lines that include this feature. If the system is being upgraded to a release that does not have the new configurable password feature, then it is required to uninstall and reinstall the XMS software, as well as record any configuration changes they may have made to XMS prior to uninstalling, so that configuration can be re-applied to the new update. The new configurable password feature will be added to future release lines, so check the Release Notes to see if the feature is present before upgrading.

PowerMedia MRB Enhancements

X-Call-Group Steering

PowerMedia MRB Release 3.5 adds support for the X-Call-Group header for enhanced call steering and routing. The X-Call-Group header is a SIP extension header that is supported by XMS to identify ingress calls that are associated to an active call group, such as calls associated with a specific conference. In this release, the MRB will monitor for the SIP X-Call-Group header and use it to steer calls to the appropriate XMS media server instance based on the call group. The PowerMedia MRB will maintain a mapping of call groups and XMS media servers so calls with the same call group can be efficiently routed to the appropriate XMS media server. Additionally, the PowerMedia MRB will use the X-Call-Group header to move all associated calls as a single call group when conferences are re-created in the event of XMS media server failure.

For more information, refer to the *Dialogic® PowerMedia™ Media Resource Broker (MRB) Technology Guide* for more information.

RESTful API "resource_moved" Event

In PowerMedia XMS Release 3.5, PowerMedia MRB adds support for a new MRB extension to the XMS RESTful API that can be used to determine how an application handles certain media operations when deploying PowerMedia solution fronted by PowerMedia MRB. The PowerMedia MRB RESTful "resource_moved" event is provided as a RESTful API indication when a media server goes offline, such as when conferences and joined calls are moved on MS failover. An application can use the event as a trigger to re-establish any media operations that were lost when the MS failed.

Refer to the *Dialogic® PowerMedia™ XMS RESTful API User's Guide* for more information.

Video Enhancements

MCU Portrait Root Sizes

PowerMedia XMS Release 3.5 adds support for a wider range of video resolutions for the MCU conference root window. Specifically, this release adds support for portrait root sizes so that applications can design and stream video conferences in portrait orientation to video endpoints. This feature can be used by applications that target video conference outputs to mobile devices that are held in portrait orientation. In this release, up to 720p portrait resolutions are supported.

Refer to the *Dialogic® PowerMedia™ XMS MSML Media Server Software User's Guide* *Dialogic® PowerMedia™ XMS RESTful API User's Guide* for more information.

MCU Default Aspect Mode

PowerMedia XMS Release 3.5 adds support to set the default aspect mode for all the regions in an MCU conference. This feature can be used by applications to set the aspect mode for the conference so all regions can inherit the property; this can be used to control the aspect ratio for video conferences with auto layout changes. A new conference level attribute "dlgc:aspectmode" has been added to the <videolayout> element to set default aspect mode for the conference. The default aspect ratio is available on create conference and modify conference elements and can be overridden by the region level "dlgc:aspectmode" parameter. The supported aspect ratio values supported are "fit", "fill", and "crop".

Refer to the *Dialogic® PowerMedia™ XMS MSML Media Server Software User's Guide* *Dialogic® PowerMedia™ XMS RESTful API User's Guide* for more information.

MSML Title Caption

PowerMedia XMS Release 3.5 adds support for title caption for text overlay when using automatic video layout option or on joined video calls in MSML. With this feature an application can add video caption titles while joining video callers to other video callers or upon joining a caller in a video conference. A new MSML attribute "dlgc:title" was added to the MSML <stream> API method to support adding text overlay title to the video stream that is being joined. The video title can be applied to either direction of the video stream connection, ingress or egress. Additionally, the MSML title caption supports UTF-8 character sets, such as Chinese and Japanese character sets, that are supported by the underlying operating system.

Refer to the *Dialogic® PowerMedia™ XMS MSML Media Server Software User's Guide* for more information.

Controlled Introduction Features

In addition to general availability of new features and functionality, PowerMedia XMS Release 3.5 also introduces new functionality in a controlled introduction (CI). These are features that are under development or have a limited scope before being made generally available. These features are available for approved customers that are looking to perform Proof of Concept (PoC) with the listed functionality. CI features have not completed Dialogic's Quality Assurance ("QA") testing and are not recommended for production deployments without approval from Dialogic. Customers interested in these features should contact their Dialogic Sales Representative or Technical Support Service Engineer for further information on usage.

CVO Support

PowerMedia XMS Release 3.5 enhances support for SDP negotiation and handling of video orientation of client video when signaled using Coordination of Video Orientation (CVO) parameters as defined by 3GPP TS 26.114. The CVO parameters are used by endpoints, especially mobile video devices to signal the video orientation of the video stream that is being transmitted so orientation can be adjusted (via rotation) on the receive end. XMS supports 2-bit CVO indications from video endpoints and intelligently utilizes these parameters during video processing depending on the use case. XMS supports the CVO bits in transcoded and native joined calls, video conferences and during play and record. When CVO is used in transcoding cases XMS will rotate the video stream (if needed) to result in the proper video orientation for the endpoint and situation. When CVO is used in native (non-transcoded) connections, such as native join or SFU, XMS will forward and signal to the remote endpoint the proper video orientation of the video.

Previous Releases

PowerMedia XMS Release 3.4

For notable features and functionality included in PowerMedia XMS Release 3.4, refer to the *Dialogic® PowerMedia® XMS Release 3.4 Release Notes* at:

http://www.dialogic.com/webhelp/XMS/3.4/XMS_ReleaseNotes.pdf

PowerMedia XMS Release 3.3

For notable features and functionality included in PowerMedia XMS Release 3.3, refer to the *Dialogic® PowerMedia® XMS Release 3.3 Release Notes* at:

http://www.dialogic.com/webhelp/XMS/3.3/XMS_ReleaseNotes.pdf

6. Controlled Introduction Features

In addition to general availability of new features and functionality, PowerMedia XMS Release 3.5 also includes new functionality in a controlled introduction (CI). These are features that are under development or have a limited scope before being made generally available. These features are available for approved customers that are looking to perform Proof of Concept (PoC) with the listed functionality. CI features have not completed Dialogic's Quality Assurance ("QA") testing and are not recommended for production deployments without approval from Dialogic. Customers interested in these features should contact their Dialogic Sales Representative or Technical Support Service Engineer for further information on usage.

The following features are offered in the PowerMedia XMS Release 3.5 controlled introduction.

- Selective Forwarding Unit (SFU)
- Video Encoder Sharing Support
- VP9 Video Codec
- CDR Remote Database

Selective Forwarding Unit (SFU)

PowerMedia XMS Release 3.5 supports a Selective Forwarding Unit (SFU) video conferencing approach for certain customer Proof of Concept (PoC) scenarios. With the SFU video conference, a video stream from each participant is routed (without transcoding) to the other participants in multimedia conference.

The SFU video conference can be used with similar video endpoints, such as WebRTC browsers, to route video between endpoints rather than processing video streams independently as is the case with a traditional Multipoint Control Unit (MCU) video conferencing. This tradeoff can be helpful to reduce CPU utilization and increase capacity when it is known all video endpoints in the video conference are compatible.

In this release, XMS provides SFU video conferencing to WebRTC and SIP endpoints by supporting a single input stream per client and a VAS (Voice Activated Switching) style output, where each client sees video based on an active talker algorithm. The SFU video conference is a conference mode that can selected upon conference creation. Once selected, video streams are routed between endpoints rather than using video transcoding to process the stream into a common format. The XMS SFU video conference uses RTCP feedback messages to provide high quality video with the client and to handle packet loss in poor network environments. In the SFU video conference, audio is still mixed as it is in a traditional audio or video conference.

For the MSML API, refer to the *Dialogic® PowerMedia™ XMS MSML Media Server Software User's Guide* for more information.

For the RESTful API, refer to the *Dialogic® PowerMedia™ XMS RESTful API User's Guide* for more information.

Google Chrome Interoperability Considerations When Using SFU

If no video is being sent into a Selective Forwarding Unit (SFU) conference and any Google Chrome clients are connected to XMS with video=recvonly, those Google Chrome clients will not render the audio that they receive. Additional information can be found at http://bugs.chromium.org/p/chromium/issues/detail?id=403710.

Primary Video Source for SFU

PowerMedia XMS Release 3.5 provides an API (dlgc:sfu_video_source for MSML and primary_video_source for RESTful) that allows setting the video to be sent to each party in a Selective Forwarding Unit (SFU) conference. This feature is available at the user level and conference level, and possible selections include "loudest speaker" (default) and all conference parties. This API is available in join and modifystream for MSML and in add_party/update_party and update_conference for RESTful.

For the MSML API, refer to the *Dialogic® PowerMedia™ XMS MSML Media Server Software User's Guide* for more information.

For the RESTful API, refer to the *Dialogic® PowerMedia™ XMS RESTful API User's Guide* for more information.

Video Encoder Sharing Support

PowerMedia XMS Release 3.5 supports video encoder sharing. Video encoder sharing includes Dialogic patented video technology that provides enhanced performance for video conferencing and video mixing applications. Video encoder sharing works by reducing the CPU cycles required to perform the most CPU intensive video function: video encoding. In video conferencing applications, such as for WebRTC video conferencing between browsers, the video conference output can be encoded once and shared among multiple users.

The video encoder sharing technology provides the capability to encode once for a number of video conference participants and perform, via Dialogic patent-pending technology, dynamic bitrate adaptation to each endpoint independently.

This feature increases the number of supported sessions while treating the network conditions to each party uniquely, which promotes better video quality at each endpoint. This feature, combined with centralized video mixing, also provides reduced bandwidth over point-to-point video sharing between WebRTC browsers.

For more information, refer to the *Dialogic® PowerMedia™ XMS Installation and Configuration Guide*.

VP9 Video Codec

PowerMedia XMS Release 3.5 supports VP9 video codec for WebRTC endpoints. XMS enables full decoding and encoding of VP9-based video sessions between Google Chrome and other VP9 endpoints, as well as transcoding to non-VP9 endpoints. VP9 is an open source and royalty free video codec developed by Google. VP9 offers compression enhancements over its precursor VP8. By adding support for VP9, XMS software facilitates broad interoperability between video formats and systems.

CDR Remote Database

In PowerMedia XMS Release 3.5, the CDR subsystem has been updated with the ability to utilize a remote database for CDR storage. This allows users to configure separate CDR storage from the default XMS local storage normally used for CDR storage. A remote database can also be beneficial for database replication, redundancy, and high data availability to provide a level of fault tolerance against the loss of a single database server.

7. Installation

There are two installation methods available:

- ISO Method
- RPM Method (used for a CentOS or RHEL installation)

ISO Method

The ISO installation method is a complete system installation that includes the CentOS, OS optimizations, and PowerMedia XMS software. The ISO can be installed from a DVD drive to a physical or virtual machine.

For more information, refer to the *Dialogic® PowerMedia™ XMS Quick Start Guide* and *Dialogic® PowerMedia™ XMS Installation and Configuration Guide*.

RPM Method

The stand-alone RPM installation method is used for installation on top of a pre-existing CentOS or RHEL installation. The RPM installation will install the PowerMedia XMS software and prerequisite packages required to run PowerMedia XMS. The RPM installation will also make OS adjustments for real-time audio and video processing required for optimal performance.

For more information, refer to the *Dialogic® PowerMedia™ XMS Quick Start Guide* and *Dialogic® PowerMedia™ XMS Installation and Configuration Guide*.

8. Upgrading

As part of the PowerMedia XMS Admin Console, the **Upgrade** page of the **System** menu provides the option to upgrade the system by uploading a system upgrade package.

Perform the following steps to upgrade the system:

1. Select the **System** menu.
2. Click the **Upgrade** tab.
3. Click **Browse** from the **Upload System Upgrade Package** section to access a system upgrade package file (.tgz) that has been downloaded.
4. Once you select the system upgrade package file, click **Upload**. After the upload completes, the system upgrade package file will be listed in the **System Upgrade Package** section.
5. Locate the appropriate system upgrade package file and click **Upgrade**.

Note: If upgrading from PowerMedia XMS Release 3.0 Service Update 1 or PowerMedia XMS Release 2.4 Service Update 7, you must use the command line upgrade process. There is a known defect in the XMS 3.0 SU1 and XMS 2.4 SU7 WebGUI upgrade process. If you have already attempted to upgrade using the WebGUI, you can remove and reinstall XMS using the command line installation. Refer to "RPM Installation and Script Options" in the *Dialogic® PowerMedia™ XMS Installation and Configuration Guide* for information on how to upgrade your system using the command line upgrade script.

Note: If there is already a system upgrade package file listed in the **System Upgrade Package** section, you can click **Upgrade** on the appropriate system upgrade package file.

Note: XMS configuration settings are preserved when upgrading the XMS system. Direct user modifications to XMS files may be overwritten with upgraded versions.

9. Configuration

There are two configuration methods available:

- PowerMedia XMS Admin Console
- RESTful Management API

PowerMedia XMS Admin Console

The PowerMedia XMS Admin Console ("Console" or "WebGUI") is a secure web-based GUI used to manage PowerMedia XMS. The WebGUI can be reached using a web browser and the PowerMedia XMS IP address.

For more information, refer to the *Dialogic® PowerMedia™ XMS Quick Start Guide* and *Dialogic® PowerMedia™ XMS Installation and Configuration Guide*.

RESTful Management API

The RESTful Management API is an alternate way of configuring and performing system management tasks for PowerMedia XMS. The RESTful Management API is a remote API carried over HTTP transport that allows the option to incorporate configuration elements into an application or web interface in a more automated or distributed manner.

For more information, refer to the *Dialogic® PowerMedia™ XMS RESTful Management API User's Guide*.

10. Licensing

Verification License

PowerMedia XMS comes with a 4-port verification license to get started. The name of the license file is *verification.lic*. This evaluation license is not intended to provide access to all product capability.

Note: As of PowerMedia XMS Release 3.5, the LBR Audio codecs (G.723, G.726, G.729ab, or iLBC), the GSMAMR Audio codecs (GSM-FR, GSM-EFR, or AMR-NB), and the AMR-WB codec are no longer enabled in the verification license. Please contact Dialogic inside sales (insidesales@dialogic.com) for a trial license with these codec capabilities.

PowerMedia XMS evaluation software can be requested by filling out a form through the Dialogic website at http://www.dialogic.com/xms/xms-download.

PowerMedia XMS production licenses or trial licenses for larger session installations can be obtained through your authorized Dialogic distributor or by contacting Dialogic Inside Sales (insidesales@dialogic.com).

The following licensing capabilities are supported in this release:

- **Hardware-Independent Licensing:** The license is locked to a 33-byte License Node ID retrieved from the XMS system WebGUI or RESTful Management API.
- **Additive Licensing:** To increase licensed resources or scale system capability, you can augment an existing license with multiple licenses. The licenses must be production (non-trial or non-verification) licenses.

Applicable Third Party License Information

This software uses third party software libraries from the FFmpeg project (http://www.ffmpeg.org) licensed under the LGPLv2.1, and source code for these libraries can be downloaded from: http://www.dialogic.com/xms/xms-swcomponents.

11. Logging

In PowerMedia XMS, the default logging level is set to WARN. For production-level traffic or high density testing, it is recommended to set the logging level to ERROR because the ERROR setting provides the lightest logging levels. To set the logging level, go to the **System** > **Diagnostics** page in the PowerMedia XMS Admin Console.

The DEBUG setting provides the most intensive logging levels. When running PowerMedia XMS Diagnostics logging at increased logging levels (e.g., DEBUG), there is additional CPU and hard drive access loading. The loading is dependent on the channel density of the system and also the level of logging that has been enabled. If system performance issues are encountered, users may need to reduce the channel load or reduce some of the debugging prints.

12. Post-Release Developments

This section describes significant changes subsequent to the general availability release.

PowerMedia XMS Release 3.5 Service Update

This Service Update for PowerMedia XMS Release 3.5 is now available. Service Updates provide fixes to known problems, and may also introduce new functionality. It is intended that new versions of the Service Update will be released periodically.

For information about installing this release, refer to the *Dialogic® PowerMedia™ XMS Installation and Configuration Guide*.

Port Configuration for XMS Monitoring subsystem

PowerMedia XMS Release 3.5 Service Update 22 provide the ability to configure IP Ports used for the XMS monitoring subsystem. With this feature, administrators can configure the IP ports used for the XMS Metric database (influxDB) and XMS Graphing engine (Grafana). This system configuration item is provided for customers that may need to change the XMS default ports of the monitoring subsystem that might conflict with other applications that are installed on the same XMS system. Configuration of the IP Ports for the XMS Monitoring subsystem can be found on the Monitor -> Options tab.

For more information, refer to the *Dialogic® PowerMedia™ XMS Installation and Configuration Guide*.

Fax Page Quality Thresholds

PowerMedia XMS Release 3.5 Service Update 17 adds support for fax page quality thresholds to provide application with configurable setting to determine fax success criteria based on page quality. Under some conditions, fax pages may be received with only a percentage of successful line data. This feature allows applications to customize the criteria by which it accepts a fax with bad lines as successful or failed fax, depending on the application tolerance and requirements. This release adds support for new PowerMedia XMS fax parameters, total_lines, consecutive_bad_lines, and bad_lines as shadow variables to the MSML API. The fax page quality thresholds have been added to the fax configuration page to allow the user to set the default preference quality levels for these parameters.

For more information, refer to the *Dialogic® PowerMedia™ XMS Installation and Configuration Guide* and *Dialogic® PowerMedia™ XMS MSML Media Server Software User's Guide*.

Call Identifiers in RESTful API Error Responses

PowerMedia XMS Release 3.5 Service Update 17 adds additional call identifiers to RESTful API error responses. These identifiers provide app level information such as call response identifier, appid, and transaction_id as supported in successful RESTful API responses. RESTful applications can use these identifiers to easily correlate errors to corresponding actions and sessions.

For more information, refer to the *Dialogic® PowerMedia™ XMS RESTful API User's Guide*.

PowerMedia MRB Management Interface Update

In PowerMedia XMS Release 3.5 Service Update 17, the upgrade process has changed when upgrading PowerMedia MRB from an older version to mrb 3.5.17 or later. Please follow the upgrade procedure documented in the *Dialogic® PowerMedia™ MRB Installation and*

Configuration Guide when upgrading from a previous version of the PowerMedia MRB, such as mrb 3.5.5, to version mrb 3.5.17 or later.

For more information, refer to the *Dialogic® PowerMedia™ MRB Installation and Configuration Guide*.

MS Enabled SIP Timer

PowerMedia XMS Release 3.5 Service Update 15 includes a behavioral update to the PowerMedia XMS SIP Session Timer functionality to align with RFC 4028; enabling support for a MS Enabled SIP Timer. As of this release, PowerMedia XMS (in the role of UAS) will act as the refresher when the client (UAC) does not include "Supported:timer" and "Session-Expires" headers in the inbound SIP INVITE. This product change aligns with the RFC 4028, Table 2 (first line), which defines the SIP Session Timer behavior of the UAS under various scenarios. This enhancement enables a PowerMedia XMS SIP timer to clear SIP sessions and media that may have been abandoned and are no longer responding to SIP messages.

PowerMedia XMS Release 3.5 Service Update 7

With Service Update 7, the following controlled introduction (CI) features and functionality introduced in PowerMedia XMS Release 3.5 are now generally available.

Key Performance Indicator (KPI) Collection/Reporting

PowerMedia XMS Release 3.5 enhances support for Key Performance Indicator (KPI) collection and reporting. KPI comprises of several metrics including system level statistics (such as CPU and memory usage), application usage statistics, call and media statistics, and licensing and resource level statistics that can provide operators with a view into the health and performance of the PowerMedia solution. KPI statistics are instrumented at each PowerMedia XMS instance and collected in a KPI database selectable for monitoring through the WebGUI.

PowerMedia XMS also provides support for report generation as periodic storage of KPI data in .csv formatted files. System operators can obtain KPI report files for analysis based on desired sample period by configuring the sampling rate in which records are created and how often files are generated. KPI reports, delivered as .csv files, can be written to local or NFS mount for file storage and retrieved through the WebGUI.

For details on KPI metrics supported, WebGUI monitoring and configuration of KPI report generation, refer to the *Dialogic® PowerMedia™ XMS Installation and Configuration Guide* for more information.

V.34 / T.38 Fax Support

PowerMedia XMS Release 3.5 adds support for V.34 transmission speeds with T.38 fax. In this release, PowerMedia XMS is now enabled to initiate T.38 protocol to connect at V.34 speeds if presented during T.38 fax negotiation. Support for V.34 transmission translates to a baud rate of 33kbps which is twice as fast as V.17, providing quicker fax transmission rates with shorter call connection times.

PowerMedia MRB AWS Support

PowerMedia MRB Release 3.5 supports PowerMedia MRB running Amazon Web Services (AWS) for cloud deployments. This release delivers cloud optimization and performance improvements to further validate the PowerMedia solution fronted by the PowerMedia MRB on AWS compute images. Customers can deploy PowerMedia MRB on Red Hat or CentOS images in Amazon.

For more information, refer to the *Dialogic® PowerMedia™ MRB Application Note: Running PowerMedia XMS on Amazon Web Services*.

High Capacity Video Session Record

PowerMedia XMS Release 3.5 has been optimized to provide high capacity video record of hundreds of HD720p WebRTC video callers joined through the PowerMedia XMS system. The capability can be used by customers looking to develop call session recording services for WebRTC media applications, especially for Call Centers and caller/agent applications that require call session recordings for archiving, monitoring or training purposes.

In this use case, WebRTC video call sessions are joined natively (without transcoding) or through the SFU video conference. PowerMedia XMS sits in the media path and handles the audio and video from each video caller while providing video feedback between endpoints to maintain good video quality connection even under low bandwidth or varying network conditions. Video recording takes advantage of the Native Record to WebM container feature, introduced in PowerMedia XMS Release 3.2, to provide a video call recording of each endpoint in a standard WebM file format. The individual WebM call recordings can be coordinated for synchronized playback of the video session at a later point.

This feature provides a significant enhancement in PowerMedia XMS video record capacity, offering the ability to handle hundreds of simultaneous HD720p video session records while joined through the PowerMedia XMS system.

Multitrack Recording

PowerMedia XMS Release 3.5 supports audio recording to dual-track (stereo) .wav files. This multitrack record feature enables applications to record two separate audio sources into different tracks. This feature can be utilized by call centers, E911 applications, banking applications, and monitoring applications to record two audio callers, such as agent and client, as different tracks rather than recording the mixed output of an audio conference. An additional use case of this feature enables applications to capture an audio recording of the PowerMedia XMS system input and output of the caller (i.e., what the caller hears and what the caller says) in a single dual-track (stereo) .wav file.

The two main use cases supported by PowerMedia XMS for the multitrack record feature in this release are individual party multitrack transaction recording and two-party multitrack recording, which are described in the following sections.

Individual Party Multitrack Recording

The individual multitrack transaction recording use case enables applications to record the audio of the caller speaking and the audio that the caller hears in the same file as two different tracks.

This feature provides the ability to record the system output sent to a user without the need to do packet capture on the network to get the audio as it is heard by the caller. The recording of what a caller hears includes all of the different sources that occur during a call, such as audio from another caller, output of a conference, or output from a play file. This provides the ability to record the audio a caller hears without the need to put all sources through a conference mixer.

Two-Party Multitrack Recording

The two-party recording use case enables applications to record two sources, such as two call parties, as two separate tracks in a single .wav file. The resulting file has each audio source in a separate track, which can be played back together or separated by source.

Providing recordings as multitrack recordings has unique advantages over single mixed audio recordings. A dual-track (stereo) .wav file can be played back on standard players as a stereo file with synchronized audio between the two parties. Additionally, a multitrack file also allows the audio of each individual participant track to be easily separated. Separating the audio allows post processing of the individual caller's audio that may not be possible with a mixed conference output where voices cannot easily be separated.

For example, individual tracks can be sent to speech analytics software to get an accurate per participant transcript or to analyze the speech characteristics of a caller or agent.

The multitrack record feature is available through the MSML, RESTful, and JSR 309 interfaces.

For the MSML API, refer to the *Dialogic® PowerMedia™ XMS MSML Media Server Software User's Guide* for more information.

For the RESTful API, refer to the *Dialogic® PowerMedia™ XMS RESTful API User's Guide* for more information.

For the JSR 309 API, refer to the *Dialogic® PowerMedia™ XMS JSR 309 Connector Software Developer's Guide* for more information.

Note: This feature is not supported by the PowerMedia MRB as of this release.

MSML MOML Event Configuration (Suppress moml.exit)

PowerMedia XMS Release 3.5 Service Update 5 includes a new configuration setting (**MSML** > **MSML Advanced Configuration** > **MOML Events** through the WebGUI) that controls the behavior of MOML events in PowerMedia XMS. The option provides a compatibility mode for applications to disable MOML events if the application does not expect the RFC 5707 required MOML events. When this configuration is disabled, MOML events such as moml.exit will be suppressed and instead the exit shadow variables will be moved to the associated msml.dialog.exit event. The default configuration is enabled to comply with RFC 5707.

For more information, refer to the *Dialogic® PowerMedia™ XMS Installation and Configuration Guide*.

Auto-Save Undelivered Recording

PowerMedia XMS Release 3.5 Service Update 2 now automatically saves an undelivered HTTP recording in MSML, RESTful and VXML. When there is a failure during an HTTP record operation (such as for a server problem), PowerMedia XMS will retry the PUT operation and if unsuccessful a second time, automatically save the recording locally for the application to recover. The application will receive an indication with file path to the undelivered recording. The undelivered recording can also be viewed and managed, with the ability to download the file, on the **Media** page through the WebGUI.

For more information, refer to the *Dialogic® PowerMedia™ XMS Installation and Configuration Guide*.

Manual Mode for Service Startup

PowerMedia XMS Release 3.5 Service Update 2 includes the ability to enable a manual service startup mode for post installation configuration. When the manual service startup mode is enabled, the system allows for configuration prior to full service startup.

For more information, refer to the *Dialogic® PowerMedia™ XMS Installation and Configuration Guide*.

Independent SIP and Media NAT Configuration

PowerMedia XMS Release 3.5 Service Update 1 includes the capability to specify the NAT address for SIP signaling separately from media. It allows an administrator ability to separate media and signaling interfaces in NATed environments to cover a greater number of cloud-centric deployment configurations.

For more information, refer to the *Dialogic® PowerMedia™ XMS Installation and Configuration Guide*.

13. Release Issues

This section lists the issues that may affect the PowerMedia XMS Release 3.5.

PowerMedia XMS Release 3.5 includes the applicable resolved issues from the following releases:

- PowerMedia XMS Release 3.4 Service Update 7 (Release Notes)
- PowerMedia XMS Release 3.3 Service Update 1 (Release Notes)
- PowerMedia XMS Release 3.2 Service Update 9 (Release Notes)
- PowerMedia XMS Release 3.1 Service Update 10 (Release Notes)
- PowerMedia XMS Release 3.0 Service Update 8 (Release Notes)
- PowerMedia XMS Release 2.4 Service Update 12 (Release Notes)

Limitations

PowerMedia XMS Release 3.5 has the following limitations:

- The RPM installation method can automatically install prerequisite operating system packages. If installing PowerMedia XMS on an existing system, it is recommended to have the yum package manager configured to use the online repository or a repository consisting of a locally mounted DVD or ISO of the operating system version being installed on.
- When upgrading a previous PowerMedia XMS installation and using the RESTful programming interface, verify the route entries in the **Routes** page of the PowerMedia XMS Admin Console after the upgrade completes.
- When using the web upgrade method for PowerMedia XMS, ensure your system has net-snmp (x86_64), net-snmp-libs (x86_64), and net-snmp-libs (i686) installed before the upgrade, or have yum enabled with the standard repository that matches your OS (the prerequisite packages will be installed automatically).

  Note: When using the command line upgrade method for PowerMedia XMS, appropriate messages will be displayed instructing the user to install those packages if yum is not configured.
- When using JSR 309 and recording a party that is joined to a conference, the video freezes. JSR 309 has DEFAULT_BEEP enabled by default, which causes this PowerMedia XMS behavior. To overcome this limitation, set DEFAULT_BEEP to FALSE before starting the recording.
- The PowerMedia MRB does not support MRCP in RESTful.

Selective Forward Unit (SFU)

When using SFU, all of the clients connected to SFU conference must:

- Support GNACK and PLI (e.g., WebRTC clients such as Google Chrome and Mozilla Firefox).
- Support VP8 and negotiate the VP8 codec.
- Use the same video codec (currently restricted to VP8).
- Use the same video resolution.

The following precautions should be taken:

- Avoid setting layout options as any video layout options are not supported as of this release. When using MSML, the layout must be specified as "auto".
- Video transcoding is not supported while using SFU. Features requiring video transcoding may have undesirable effects. These features include but are not limited to:
    - Conference background image and color, and borders.
    - Text and image overlay.
    - Video layouts and root sizes.
    - SIP re-INVITEs which change the video coder.

Changes and Considerations

PowerMedia XMS Release 3.5 has the following changes and considerations:

GNU Bourne Again Shell (Bash) Vulnerability

A vulnerability "Shellshock" has been reported in the GNU Bourne Again Shell (Bash), the common command-line shell used in most Linux/UNIX operating systems (OS). The flaw could allow an attacker to remotely execute shell commands by attaching malicious code in environment variables used by the OS. Patches have been released to fix this vulnerability for affected OS versions. As of the publication date of this document, the current solution does not completely resolve the vulnerability. It is recommended that the user install existing patches and pay attention for updated patches.

PowerMedia XMS makes use of the bash shell in several components. For ISO installations, it is recommended that the user log into the PowerMedia XMS command line and update the bash package with the following command line:

```
# yum update bash
```

For PowerMedia XMS RPM installations, the user should check the version of bash package installed and apply any patches if required. Additional information about Shellshock can be found at http://www.us-cert.gov/ncas/alerts/TA14-268A.

Verification License Change

In PowerMedia XMS Release 3.5, the XMS verification license no longer includes certain codecs.

- AMR-NB, AMR-WB, and LBR codecs have been removed.

What to expect:

- 4 Basic Audio, 4 HD Voice (No AMR-WB), 4 Advanced Video, 4 High Resolution Video, 4 MRCP Speech Server, and 4 MSRP.

A timed trial license can still be requested with these codecs. Please contact Dialogic inside sales (insidesales@dialogic.com) for a trial license with these codec capabilities.

Note: The verification license will allow use of OPUS but not AMR-WB, even though it has HD Voice license.

SNMP Service Status Trap Change

In PowerMedia XMS Release 3.5, the service status traps are now available for all optional XMS services.

- The new services include: hmp, httpclient, mrcpclient, xmsrest, netann, vxml, faxservice, cdrservice, etc.
- The new capability is available in SNMP, allowing the application to monitor status of all XMS services.
- The service identifiers are now strings rather than ENUMs.

As a result, SNMP trap data has changed slightly. For more information, refer to the *Dialogic® PowerMedia™ XMS Installation and Configuration Guide*.

Note: Customers may experience issues by not using the proper SNMP MIBs (i.e., not upgrading the SNMP MIBs).

Google Chrome 74 Compatibility Update

When using WebRTC, users can experience failed calls with Google Chrome 74 web browser. PowerMedia XMS Release 3.5 Service Update 14 addresses issues encountered where the WebRTC DTLS handshake fails with Google Chrome 74.

Issues Table

The table in this section list issues that affect the PowerMedia XMS. The issues are sorted by issue type. The following information is provided for each issue:

- **Issue Type** – This classifies the type of release issue based on its effect on users and its disposition:
  - **Known** – A minor issue. This category includes interoperability issues and compatibility issues. Known issues are still open but may or may not be fixed in the future.
  - **Known (permanent)** – A known issue or limitation that is not intended to be fixed in the future.
  - **Resolved** – An issue that was resolved (usually either fixed or documented) in this release.
- **Defect No.** – A unique identification number that is used to track each issue reported.
- **SU No.** – For defects that were resolved in a Service Update, the Service Update number is shown.
- **Product or Component** – The product or component to which the issue relates; for example, an API.
- **Description** – A summary description of the issue. For non-resolved issues, a workaround is included when available.

Note: The [CI] superscript represents a controlled introduction (CI) feature or functionality.

PowerMedia XMS

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-14189	23	XMS	XMS no longer responds to a client reinvite (with a null SDP) with an illegal payload type for its media.
Resolved	XMS-14132	23	XMS	XMS download diagnostics' sosreport generation no longer creates a crash report when "include system diagnostics" is selected.
Resolved	XMS-14120	23	XMS	Audio playing from the RTSP server can now be heard.
Resolved	XMS-14042	23	XMS	An issue that caused the XMS 3.5 cdrserver to go into the "Failed" state and no longer gather CDR entries has been fixed.
Resolved	XMS-13920	23	VXML	Starting with version 3.5 SU23, VXML no longer uses a high CPU percentage when idle.
Resolved	XMS-13880	23	XMS	An error message no longer appears when a user sets the threshold configuration via the WebGUI.
Resolved	XMS-13669	23	XMS	An issue was fixed where the CDR service did not correctly track disconnected calls when the XMS services restarted after a graceful shutdown.
Resolved	XMS-13470	23	XMS	An issue that prevented some XMS versions from generating CDR files has been fixed.
Resolved	XMS-13346	23	XMS	A "501 Not Implemented" error was corrected by addressing an issue when handling preconditions.
Resolved	XMS-13342	23	XMS	A FireFox WebRTC connect freeze issue was fixed by addressing an issue in the logs and modifying the audio attribute.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-13346	22	XMS	Calls are rejected with "501 Not Implemented" when stream is negotiated unidirectional
Resolved	XMS-13320	22	XMS	XMS incorrectly reports successful file transfer when destination folder doesn't exist.
Resolved	XMS-13291	22	WebGUI	Deleted users are not logged out from WebGUI.
Resolved	XMS-13273	22	http	Httpclient crash when playing a file hosted on Google Cloud Platform.
Resolved	XMS-13272	22	XMS	Resolved issue when receiving SIP INFO messages with type: application/dtmf-relay
Resolved	XMS-13207	22	VXML	Intermittent VXML dialog hang during PREPARE_DIALOG stage due to no available streams.
Resolved	XMS-13202	22	XMS	Deprecated running of xmsprof.sh shell script during user login.
Resolved	XMS-13155	22	XMS	Resolved issues with CLD metrics file rotation.
Resolved	XMS-13029	21	XMS	Xmserver crash when processing SDP crypto parameters.
Resolved	XMS-13022	21	Video	XMS streams low resolution video to some devices.
Resolved	XMS-12989	21	MRCP	MRCP client crash when attempting to send BYE on closed connection.
Resolved	XMS-12988	21	HMP	Poor audio quality in recording when running in KVM environment.
Resolved	XMS-12875	21	CDR	CDR service crash.
Resolved	XMS-12817	20	Fax	XMS faxservice crash due to invalid fax page width.
Resolved	XMS-12812	20	Licensing	License activation failures in AWS.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-12781	20	VXML	VXML logging does not take effect after being enabled.
Resolved	XMS-12771	20	MRCP	MRCP client crash causes XMS to become unresponsive.
Resolved	XMS-9833	20	WebGUI	Addressed security vulnerability in XMS WebGUI.
Resolved	XMS-12578	19	HMP	When additive license is used, gc_Start() call fails as license checkout has failed.
Resolved	XMS-12179	19	HMP	There is a vulnerability due to the FlexNet version.
Resolved	XMS-12027	19	HMP	XMS fails with segmentation fault while encoding AMRWB audio in ssp_x86Linux_boot process.
Resolved	XMS-11998	19	HMP	PRACK is not included in the SIP Allow header.
Resolved	XMS-12488	19	HTTP Client	When attempting to play a cached file, there are ERROR and WARN prints.
Resolved	XMS-9904	19	MSRP	The msrpservice binary fails with segmentation fault.
Resolved	XMS-11953	19	Nodecontroller	The xmserver service fails to start after changing telephony payload type via RESTful Management API.
Resolved	XMS-12129	19	SNMP	SNMP MIB views are removed in the local file after updating SNMP fields in WebGUI.
Resolved	XMS-12122	19	SNMP	SNMP alarm not raised when XMS process moves to FAILED state.
Resolved	XMS-12407	19	WebRTC	WebRTC demo does not work when using Mozilla Firefox 69.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-12178	19	XMS	XMS is ignoring the configured session timer value when sending 200 OK response to INVITE message.
Resolved	XMS-12147	19	XMS	The exported CSV file by xmscld displays only the header and no other data.
Resolved	XMS-12104	19	XMS	XMS shows high CPU usage by ssp_x86Linux_boot process.
Resolved	XMS-12090	19	XMS	If the xmserver process fails in split mode, there is an issue with garbled or silent audio.
Resolved	XMS-11838	18	Appmanager	When PRACK with SDP and BYE arrives almost at the same time, the incoming call with precondition gets stuck forever.
Resolved	XMS-12027	18	HMP	XMS fails with segmentation fault while encoding AMRWB audio in ssp_x86Linux_boot process.
Resolved	XMS-12004	18	Video	The video quality is degraded with lower than expected bandwidth setting in XMS response.
Resolved	XMS-11588	18	Video	Experiencing one-way video during load testing. SIP client and WebRTC client are bridged together.
Resolved	XMS-11952	18	VXML	When VXML pre-fetch is disabled, there is SIP signaling session leak.
Resolved	XMS-11605	18	VXML	The vxmlinterpreter process crashes after significant increase in memory.
Resolved	XMS-11849	18	XMS	When the end client disconnects the call during play, xmsrest does not send hangup event.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-11645	17	RESTful	The "code" and "description" attribute values in <error> responses will contain additional possible values not previously returned. Applications that depend on specific values of these attributes should be validated for correct operation with this version of XMS.
Resolved	XMS-11601	17	Third Party	The telegraf service fails with segmentation fault.
Resolved	XMS-11023	17	Third Party	The lighttpd version installed by XMS is filling up the hard disk.
Resolved	XMS-11511	17	XMS	The xmserver crashes with core dump and stops taking any calls.
Resolved	XMS-11503	16	VXML	The vxmlinterpreter process is showing high CPU usage during load testing.
Resolved	XMS-11521/ XMS-11510	16	XMS	When XMS issues a re-INVITE (i.e., direction changes) to a Google Chrome 74 (or later) client, video may be of much degraded quality and there may be flooding error prints in the messages file. This issue was revealed after release of Google Chrome 74.
Resolved	XMS-11265	15	JSR 309	When the Public Address is set to FQDN, there is a JSR 309 Connector error.
Resolved	XMS-11102	15	JSR 309	The JSR 309 Connector is returning "NullPointerException - Failed to dispatch Sip message to servlet".
Resolved	XMS-10999	15	JSR 309	There is 2 second timeout when waiting for Request Completion (waitForRequestCompletion) in com.vendor.dialogic.javax.media.mscontrol.DlgcSync2AsyncMonitor.
Resolved	XMS-10948	15	JSR 309	When sending re-INVITE to set one-way media, the JSR 309 Connector uses the incorrect request URI.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-10883	15	JSR 309	When application calls processSdpAnswer, the JSR 309 Connector is getting NullPointerException.
Resolved	XMS-9306	15	JSR 309	The JSR 309 Connector throws NullPointerException during initialization.
Resolved	XMS-11250	15	MSML	When requesting to process play with barge and faxdetect, then faxdetect would terminate upon digit arrival.
Resolved	XMS-11251	15	Nodecontroller	The faxservice status shows "STARTING", although it failed to start because of race condition between SR140 driver load completion and faxservice start call.
Resolved	XMS-11460	15	RESTful	The xmsrest service crashes during load testing.
Resolved	XMS-11295	15	XMS	There is a discrepancy between the codec and SIP/RTP usage reporting.
Resolved	XMS-11209	15	XMS	After the occurrence of "491 Pending Request", XMS returns full SDP set for answer SDP to the client’s refresh.
Resolved	XMS-11169	15	XMS	All the media sent to private address of XMS deployed in EC2 after re-INVITE. As the result, DTMF digits do not reach to XMS.
Resolved	XMS-10776	15	XMS	After a failover, calls are stuck even though they are moved to the other XMS and session timers have expired.
Resolved	XMS-10775	15	XMS	After a failover, calls are stuck even though they are moved to another XMS and session timers have expired.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-10582	15	XMS	The layout_region parameter shows a different behavior if the region is ordered differently.
Known	XMS-11297	15	XMS	XMS ignores the session expiration setting and uses minimum of 90 seconds when the caller does not support session timers.
Known	XMS-11521/ XMS-11510	15	XMS	When XMS issues a re-INVITE (i.e., direction changes) to a Google Chrome 74 (or later) client, video may be of much degraded quality and there may be flooding error prints in the messages file. This issue was revealed after release of Google Chrome 74.
Resolved	XMS-11212	14	HMP	WebRTC DTLS handshake fails between XMS and Google Chrome 74.
Resolved	XMS-10967	14	HMP	There is occasionally frozen video in an SFU conference when one or more participants do not send video.
Resolved	XMS-11177	14	RESTful	When removing the resource ID, xmsrest service crash is observed on the system.
Resolved	XMS-10887	14	WebGUI	When setting the IP on the **Network** > **Interface Configuration** page of the WebGUI, there is a 503 error.
Resolved	XMS-11238	14	XMS	Optional service wsapiserver in failed state. The service is now disabled by default.
Resolved	XMS-11194	14	XMS	Double digit returned with event against each incoming RFC2833 digit in custom mode with IN-BAND and RFC2833 both enabled.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-11193	14	XMS	When the **DTMF Reception Modes** field is set to Default and offer/answer has negotiated IN-BAND, the DTMF event is being suppressed.
Resolved	XMS-10941	14	XMS	Incorrect timing in recorded native WebM file when video starts much later than audio.
Resolved	XMS-10916	14	XMS	XMS crash is observed with H264 native recording of video from certain clients sending padding packets.
Resolved	XMS-10861	13	HMP	Small blips of DTMF tone leads to RFC 2833 digit to be generated on outbound streams.
Resolved	XMS-10920	13	XMS	Large cookies will cause a failure on WebSocket connection for rtcweb.
Resolved	XMS-10916	13	XMS	XMS crash is observed with H264 native recording due to client sending unsupported high-profile video.
Resolved	XMS-10790	13	XMS	MSRP calls fail to connect with 503 error under load.
Resolved	XMS-10650	13	XMS	MSRP license is not being released.
Resolved	XMS-10778	12	HMP	XMS fails with ssp_WRK20_p9 segmentation fault in ssp_x86Linux_boot process.
Resolved	XMS-10696	12	HMP	Channel may be left in bad state after H264 native recording due to client sending unsupported high-profile video.
Resolved	XMS-10610	12	HMP	XMS fails with ssp_x86Linux_boot process segmentation fault.
Resolved	XMS-10660	12	SNMP	When running snmpwalk command, a general failure occurs.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-9729	12	SNMP	XMS sends SNMP trap xmsIncorrectLoginAttempt after successful user login through the WebGUI.
Resolved	XMS-10798	12	VXML	The calls to VXML are delayed for multiple seconds before answering.
Resolved	XMS-10761	12	WebGUI	The **Monitor** > **Call Groups** page is not displaying calls.
Resolved	XMS-10804	12	XMS	When using play_demo, signaling sessions are not getting cleared.
Resolved	XMS-10777	12	XMS	XMS sends AMR mode-set parameter with all mode if initial INVITE has AMR/AMR-WB in offer SDP but does not contain mode-set parameter.
Resolved	XMS-10751	12	XMS	The appmanager service crashes on unacknowledged transaction.
Resolved	XMS-10738	12	XMS	XMS crash is observed with H264 native recording due to client sending unsupported high-profile video.
Resolved	XMS-10316	11	HMP	When changing the default codec to VP9 the XMS would go into failed state when playing hold prompt.
Resolved	XMS-10478	11	MSML	When using MSML, XMS fails to unmute participant.
Resolved	XMS-10525	11	RESTful	The xmsrest service fails with segmentation fault when clearing a call dropped by the network.
Resolved	XMS-10560	11	XMS	XMS sends mode-set parameter values with all mode in answer SDP even though offer SDP in incoming INVITE does not contain mode-set parameter value for AMR and AMR-WB codec.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-10528	11	XMS	Native WebM record fails with "13 Video file open failed" and does not create directory if it does not exist in the system.
Resolved	XMS-10526	11	XMS	The faxservice is in FAILED state, but the WebGUI shows as RUNNING.
Resolved	XMS-10481	11	XMS	Not all services come up after a reboot or restart through the WebGUI.
Resolved	XMS-10376	11	XMS	HTTP cached file being left in the cache folder even when HTTP cache is disabled.
Known (permanent)	XMS-10720	11	XMS	If dhclient versions earlier than *dhclient-4.2.5-60* are installed, XMS may fail to start certain RTP sessions. When this failure occurs, an error that contains "ssp_x86Linux_boot: rtpSocketGet: bind returned an error" will appear in */var/log/messages*. This is due to an issue in dhclient that is resolved in *dhclient 4.2.5-60* or higher. To resolve the issue, open a terminal session on the XMS system and update dhclient: yum update dhclient
Resolved	XMS-10118	10	HMP	SSP crashes when both the call legs are recording where the caller video is sendonly and the called video is recvonly.
Resolved	XMS-9968	10	RESTful	`It is possible, in rare cases, for the xmsrest service to crash if a dial fails at the same time the call is disconnecting from the XMS.`
Resolved	XMS-10462	10	SNMP	When the "Process signaling and media separately" parameter is enabled, XMS reports an error attempting to get xmsServiceUptime and xmsServiceLastReset for xmserver.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-10263	10	VXML	VXML crashes for second play+collect after XMS services restart.
Resolved	XMS-10430	10	XMS	The KPI max counters show "0" in the **XMS Licenses** dashboard graphs.
Resolved	XMS-10357	10	XMS	When changing dynamic payload type, XMS is unable to detect DTMF digits.
Resolved	XMS-10214	10	XMS	Fax resources leak over time and the session hangs.
Resolved	XMS-10437	9	HMP	SSP crashes during load testing.
Resolved	XMS-10347	9	RESTful	The xmsrest service fails with segmentation fault when setting user defined gusid in create conference request with "reserve" parameter value more than the basic audio licensed on the system.
Resolved	XMS-10200	9	VXML	The channels on XMS are not released and eventually run out, resulting in loss of service.
Resolved	XMS-10015	9	WebGUI	XMS does not send v3 SNMP trap "xmsIncorrectLoginAttempt" for conditions where the username is entered incorrectly with less than 5 characters.
Resolved	XMS-10328	9	XMS	The *services.conf* file in XMS is changed even when no changes have been made.
Resolved	XMS-10223	9	XMS	XMS sends incorrect SIP response "501 Not Implemented" after precondition UPDATE.
Resolved	XMS-9988	8	HMP	The media engine crashes during DoS/DDoS attacks.
Resolved	XMS-9793	8	HMP	SSP crashes during rtpSocketClose function.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-9530	8	HMP	The HMP media processing service fails after rebooting host machine.
Resolved	XMS-9505	8	HMP	When setting parameter clamp="true" or setting "termkey" parameter, DTMF tone still gets recorded.
Resolved	XMS-7478	8	HMP	When the session timer expires, XMS does not provide a Reason Header within BYE request to the remote end.
Resolved	XMS-8841	8	Installation (RPM)	When installing the RPM on an Oracle 6.x system, the installation terminates on the adapter configuration.
Resolved	XMS-10108	8	XMS	When call-session stream direction changes (sendonly, recvonly) and when stream is inactive via re-INVITE, there are no RTCP Sender/Receiver reports being sent from XMS to remote end.
Resolved	XMS-9987	8	XMS	SSP crashes during H264 video streaming (SFU) and SDP re-negotiation.
Resolved	XMS-9981	8	XMS	Even when incoming offer does not contain mode-set to indicate support of all modes, XMS sends mode-set parameter with value "0,1,2,3,4,5,6,7,8" or the one set for AMR codecs with its answer.
Resolved	XMS-9820	8	XMS	Interoperability issue with endpoints that send IN-BAND DTMF even though RFC 2833 was negotiated in SDP.
Resolved	XMS-9646	8	XMS	The xmserver crashes during onResourceEvent function.
Resolved	XMS-9511	8	XMS	The keepalive is not sent on a particular appid if there is event activity on a different appid.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-9436	8	XMS	SID is missing on some RESTful log entries.
Resolved	XMS-9434	8	XMS	XMS is using/requesting a cache file despite having it be past the maxage.
Resolved	XMS-9431	8	XMS	When the default value is changed for the RFC 2833 digits in XMS, it will no longer be able to detect digits if the payload type does not match what was set.
Resolved	XMS-9274	8	XMS	The xmsrest service fails by SIGABRT with core dump.
Resolved	XMS-8877	8	XMS	The appmanager service fails by SIGABRT during destroySession function.
Known	XMS-10153	8	HMP	When doing native recording on SFU conference party, the video is sometimes truncated in the recording, but the entire audio stream is successfully recorded.
Known	XMS-10144	8	HMP	Slight degradation in audio quality has been noted for cases where AMR2 call receives CMR that changes the bitrate.
Resolved	XMS-9016	7	HMP	Temporary slowdown when processing events after 51 days of continuous operation.
Resolved	XMS-9345	7	JSR 309	There is a timeout experienced when response for VFU update from the client is being processed through JSR 309 Connector.
Resolved	XMS-9344	7	JSR 309	The conference ControlLeg "move call" from MRB does not generate ALLOCATION_CONFIRMED event.
Resolved	XMS-9316	7	JSR 309	Due to XMS failure, restarting the recording does not work for conference.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-9095	7	JSR 309	There is a resource leak due to empty DialogId.
Resolved	XMS-9007	7	JSR 309	There is a stack overflow error observed in the get media session.
Resolved	XMS-8942	7	JSR 309	Unable to lock exception is found in confirm method.
Resolved	XMS-8940	7	JSR 309	Incorrect media event is displayed when there are no errors.
Resolved	XMS-9231	7	XMS	When making calls, some Samsung devices fail to decode AMR-WB SID packets.
Resolved	XMS-8981	7	XMS	When the SIP session closes, RTP sessions remain active in XMS.
Resolved	XMS-9072	6	CDR	After a long period of time, calls on the media server eventually disappear from the CDR active list on the WebGUI.
Resolved	XMS-9182	6	Fax	The faxservice crashes by SIGSEGV.
Resolved	XMS-8756	6	Video	When changing video orientation, the caption text is completely distorted.
Resolved	XMS-9164	6	XMS	XMS stops answering inbound calls with 408 SIP responses.
Resolved	XMS-8814	5	HMP	Due to trap divide error in *ssp.mlm*, HMP goes into a failed state.
Resolved	XMS-8733	5	HMP	There are certain WAV files that cannot be played by XMS.
Resolved	XMS-8839	5	JSR 309	Support for X-Call-Group SIP header as part of the conference control leg.
Resolved	XMS-8941	5	MRB	The **Resource Summary** page shows that there are no active media servers connected.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-8825	5	MRB	On the **Resource Summary** page, the "Group Resource Meters" column has no data.
Resolved	XMS-8791	5	MRB	There is an exception written to the *mrb.out* log every couple of seconds.
Resolved	XMS-8709	5	MRB	The MRB WebGUI has a warning with media server adaptor version mismatch.
Resolved	XMS-8504	5	MRB	When forcing re-INVITE, the RtpCheck method is susceptible to a race condition.
Resolved	XMS-8868	5	MSML	The <gain> attributes tgtlvl and maxgain should be passively accepted to follow RFC 5707.
Resolved	XMS-8863	5	MSML	When using the composite mechanism for play/record, the record does not terminate if the play is barged via the termkey.
Resolved	XMS-8858	5	Nodecontroller	XMS sends default content-type application/xml instead of user configured application/msml+xml after upgrade from XMS 3.1 to XMS 3.5.
Resolved	XMS-8812	5	SNMP	The SNMP community public is enabled and has full access to all OIDs.
Resolved	XMS-9094	5	XMS	The appmanager service crashes in fax onAckUpdateStream,
Resolved	XMS-9085	5	XMS	The suppress ssrc attribute is in the answer SDP when it is not present in the offer SDP.
Resolved	XMS-9004	5	XMS	XMS is not sending encrypted SRTP payloads after Remote NAT Traversal in some cases.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-8939	5	XMS	XMS rejects call with "408 Request Timeout" or does not respond with 18x/200 OK.
Resolved	XMS-8910	5	XMS	The video conference join is returning "500" conference stream error.
Resolved	XMS-8880	5	XMS	After upgrading, the system is unable to start the xmscld service.
Resolved	XMS-8850	5	XMS	When clearing a server session, there is MRCP license leak.
Resolved	XMS-8772	5	XMS	DTLS negotiation fails on outbound SDP calls.
Known	XMS-8965	5	XMS	After configuring the meters in the **Configure Meters** window and clicking the **Apply** button, the **Apply** button on the **Metrics Export** page must also be clicked for configured settings to take effect.
Known (permanent)	XMS-8931	5	MSML	Due to limitations in the CentOS 6 regular expression processing library, the MSML <pattern> element does not support regex patterns on CentOS 6.
Resolved	XMS-8643	4	HMP	XMS fails with SSP segmentation fault in DtlsProcessRxPkt.
Resolved	XMS-8625	4	HMP	XMS fails with SSP core dump.
Resolved	XMS-8142	4	HTTP Client	When announcement expires from the cache and web server DNS is unavailable, there is no play failure returned.
Resolved	XMS-8159	4	MRB	The *nst-ms-adaptor-config.xml* points to the incorrect interface resulting in XMS being unavailable.
Resolved	XMS-8640	4	MSML	Basic Audio license leak observed as RTP session is not stopped by XMS.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-8436	4	MSML	XMS removes any text present after a character "," or ";" or "=" before applying as overlay.
Resolved	XMS-8557	4	SNMP	During reboot, there is duplicated "STARTING to RUNNING" state transition sent for msrpservice.
Resolved	XMS-8184	4	VXML	When a dialog document is unable to be fetched or parsed, XMS does not return SIP response "500 Internal Server Error".
Resolved	XMS-8589	4	WebGUI	The Window Logger Manager Tool (*RemoteRtfToolInstaller.msi*) fails to download on Microsoft Internet Explorer 11 and displays as HTML.
Resolved	XMS-8539	4	WebGUI	A large amount of recordings causes the **Manage Undelivered Recordings** page to be unresponsive.
Resolved	XMS-8710	4	XMS	XMS is not responding to UPDATE request that contains a reduced strength in its SDP (invalid audio preconditions).
Known	XMS-8779	3	WebGUI	The display for **On Start Enabled** check box on the **Services** page toggles on and off during refresh, making it difficult to determine if the setting is enabled or disabled.
Known (permanent)	XMS-7650	3	WebGUI	When using Edge, the **Refreshing every** field does not show a drop-down list option.
Resolved	XMS-8331	3	HMP	When an inbound UPDATE request is handled before the call, the receiving fax request fails with "IPERR_TXRXRESOURCESINSUFF" error.
Resolved	XMS-8253	3	HMP	During AMR-WB decode, there is HMP SSP crash by SIGFPE.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-8142	3	HTTP Client	There is no play failure returned when announcement expires from cache and DNS is unavailable.
Resolved	XMS-8392	3	MSML	The unjoin on other dialog fails with no SIP responses from XMS.
Resolved	XMS-8375	3	MSML	XMS always returns a record.len of "0" for remote record.
Resolved	XMS-8371	3	Nodecontroller	The setting for disabling CVO parameter is cleared after applying a license and issuing XMS restart.
Resolved	XMS-8275	3	RESTful	The messages log is filled with "ALARM event call resource is not found" entries.
Resolved	XMS-8262	3	RESTful	The xmsrest process goes into a failed state without any indication.
Resolved	XMS-8278	3	Video	There is intermittent video freezing without any bandwidth changes during a call.
Resolved	XMS-8274	3	Video	The video quality is poor at the beginning of a call.
Resolved	XMS-8255	3	Video	AV record fails to write with "AVRCRD Cannot write audio frame to A+V file" error.
Resolved	XMS-8251	3	Video	There is video freezing after the network available bandwidth is dropped in the mid-call.
Resolved	XMS-8270	3	VXML	The SIP Header "P-Asserted-Identity" returns an array even when a comma exists in the value.
Resolved	XMS-8366	3	WebGUI	When logged in as "viewer", the account can modify the enabled coders.
Resolved	XMS-8450	3	XMS	Some of the files and directories under */usr/dialogic* are set as "512" ownership.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-8442	3	XMS	XMS hangs after the 100 Trying to re-INVITE with incorrect precondition attributes in the re-INVITE SDP.
Resolved	XMS-8313	3	XMS	The applied image overlay on a region is shown as a black background.
Resolved	XMS-8277	3	XMS	XMS rejects incoming calls with "503 Service Unavailable" even when enough licenses/resources are available.
Resolved	XMS-7508	3	XMS	The **Protocol** > **SIP** page of the WebGUI is blank.
Resolved	XMS-8123	2	HMP	XMS recording is missing video from some parts of the call.
Resolved	XMS-8119	2	Video	When using Safari on iPhone during video conference, the video orientation is upside down in portrait mode.
Resolved	XMS-8027	2	XMS	gc_AcceptModifyCall() fails with the reason that no answer SDP is attached.
Resolved	XMS-7859	2	XMS	When performing Early Media call scenario, XMS does not include the same answer SDP that is in the unreliable failure provisional response (183 Session Progress).
Resolved	XMS-7258	1	CDR	If XMS is restarted normally while calls are connected to it, then the CDR will report the calls as answered after restart. These calls will remain answered forever.
Resolved	XMS-7915	1	Diagnostics	When the log level for the sysmonitor component is changed on the **Diagnostics** page of the WebGUI, sysmonitor does not restart logging with the new level as other services do.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	310822	1	HMP	SDP negotiation fails when missing m=audio section.
Resolved	310769	1	HMP	When receiving invalid Opus audio data, there is intermittent XMS crash.
Resolved	310530	1	HMP	While handling EVS call, there is HMP firmware SSP crash.
Resolved	309925	1	HMP	When using RESTful and WebRTC, there is intermittent XMS crash.
Resolved	XMS-7858	1	HMP	The multitrack record feature occasionally fails to record both tracks.
Resolved	310558	1	Installation (RPM)	The upgrade installation process is creating incorrect .conf files which is causing call routing issues.
Resolved	310635	1	MRB	The drop-down list for user selection is blank and unable to assign role to new user.
Resolved	303088	1	MSML	The stream gain is applied to the outbound (from XMS perspective) side of the stream instead of the inbound side as per RFC 5707.
Resolved	XMS-7920	1	Nodecontroller	After purging logs on the **Diagnostics** page of the WebGUI, several logs are not recreated until the XMS services are restarted.
Resolved	XMS-7708	1	Nodecontroller	The setcodecs-python script is not supported. Using this script will corrupt the codec profiles in the internal configuration files.
Resolved	XMS-7051	1	Nodecontroller	When using the REST Nodecontroller interface with XML payloads, Nodecontroller does not properly encode XML in its RESTful responses.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-7922	1	RESTful	When attempting a GET on MRCP get-tts-param, XMS will instead attempt a set-tts-params internally resulting in "11 Server error" and unpredictable behavior.
Resolved	XMS-7902	1	RESTful	The xmsrest.resource.call.active counter is not decremented when rejecting an incoming call to the REST application with accept="no".
Resolved	XMS-7668	1	RESTful	REST responds with incorrect error code (5xx) instead of 400 Bad Request for certain negative/failure cases such as attempting to do a playrecord while a playrecord is already active, or attempting to unjoin a call that is not joined.
Resolved	XMS-7266	1	RESTful	Multitrack record is not recording the correct direction for a REST record.
Resolved	XMS-7917	1	SNMP	When stopping XMS, the trap indicating that HMP has transitioned from STOPPING to STOPPED is never sent.
Resolved	XMS-7916	1	SNMP	Some counters (xmsMediaTransactions.0, xmsConferenceRooms.0, xmsConferenceCallParties.0, xmsConferenceMediaParties.0) in the SNMP xmsResource OID report as "0" when they are non-zero values.
Resolved	XMS-7909	1	SNMP	On a bad login attempt, the xmsIncorrectLoginAttempt trap incorrectly reports the status as cleared (1) instead of warning (6).

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	XMS-7208	1	WebGUI	The WebGUI idle timeout is not affected by activity in the **Graph** page. If the user continues to use the **Graph** page (without navigating to another page before the idle timer triggers), the idle activity timer will still trigger and log the user out.
Resolved	XMS-6910	1	WebGUI	Even with auto refresh disabled, the **CDR** page will scroll the view to the top three seconds after the mouse is idle. This also occurs when trying to type a query name into the WebGUI; in this case the user will be kicked out of the text entry field.
Resolved	310541	1	XMS	XMS does not add port information with Contact header when NAT is enabled.
Resolved	309649	1	XMS	XMS does not handle precondition call offered with pre-reserved QOS.
Resolved	309452	1	XMS	If XMS is configured for "IN-BAND" for **DTMF Detection Mode** on the **MSML Advanced Configuration** page and XMS is offered RFC 2833 during call establishment, XMS will answer SDP indicating support for RFC 2833.
Known	XMS-8070	1	HMP	The multitrack play fails with "Wave file not valid" error.
Known (permanent)	XMS-7764	1	HMP	The multitrack record feature does not record to both tracks when using the same direction for both tracks.

Issue Type	Defect No.	SU No.	Product or Component	Description
Known (permanent)	XMS-7907	1	Nodecontroller	If the user switches from a purchase license that has AMR-WB back to the verification license (that does not), the AMR-WB codec incorrectly remains enabled on the **Codecs** page. This will result in failed call attempts if the endpoint lists AMR-WB as the preferred codec. **Note:** When switching back to the verification license, remember to disable AMR-WB.
Known	XMS-7919		HMP	In cases where the host was restarted in a non-graceful way (i.e., being rebooted after a power outage), a killtask has been observed upon the first start when attempting to start HMP which then results in a failure to start XMS. A restart of the XMS services recovers from this issue.
Known	XMS-7609		HMP	A beep initiated record does not work when the call is established using EVS or Opus.
Known	XMS-7231		HMP	When using DTLS SRTP encryption with two joined audio calls, XMS may report replay attack failures in */var/log/messages*.
Known	XMS-6921		HMP	RTFserver may crash during service start.
Known	XMS-7874		Installation (RPM)	An issue has been observed where the user is kicked out from the WebGUI during XMS upgrade installation. While the upgrade appears to have completed successfully, the user is unable to log back into the WebGUI. Logging back into XMS and issuing a service nodecontroller restart appears to correct this scenario.

Issue Type	Defect No.	SU No.	Product or Component	Description
Known	XMS-7631		MRB	On rare occasions during a failover attempt following a network cable pull on XMS, the MRB will successfully failover the calls to the second XMS but misreport the failover statistics in the MRB WebGUI. For example, in the case of two joined calls, MRB reported 1 failed move and 2 successful moves in the **MS HS Statistics** page.
Known	XMS-7575		MRB	If the MRB does not receive the ACK to the 200 OK, the MRB may respond with 481 to the BYE from XMS. In this case, the call is never terminated.
Known	XMS-7554		MRB	An exception has been observed in the *nst-mrb.log* on the first start of the MRB. This exception does not cause any issues with the MRB startup.
Known	XMS-7553		MRB	The MRB WebGUI does not warn the user after entering the same JMX address for both the master and slave nodes.
Known	XMS-7479		MRB	The MRB WebGUI **Dashboard** page may show an invalid number "-0.0" for the maximum non heap size.
Known	XMS-6520		MRB	When clicking **Import Config** on the MRB WebGUI **MRB Configuration** page with no file selected, an incorrect error is generated stating "Value must be between 1025 and 65535".
Known	XMS-7921		RESTful	When there are active MRCP sessions, REST reports no MRCP sessions exist when doing a GET on /mrcps.

Issue Type	Defect No.	SU No.	Product or Component	Description
Known	XMS-7912		SNMP	The xmsServiceOverallStatus may report RUNNING while STOPPING, STOPPED while STARTING, and OUTOFSERVICE when STOPPING, STOPPED, or STARTING. The STARTING and STOPPING status never seems to be reported.
Known	XMS-6947		WebGUI	Changes to the CDR results table columns are reset after leaving the page. The user must reconfigure the display after every visit to the page.
Known	XMS-7864		XMS	If an audio video call is switched from inactive to sendrecv when connected to Mozilla Firefox 56, no audio is heard or no video is seen on the browser.
Known	XMS-7661		XMS	When an XMS is under load in a system where MSRP transfers are being used, "GcIptDevice::makeCall() glare detected" prints may appear in */var/log/messages*. This print simply indicates a glare condition has occurred. No calls will be affected since XMS will use the next available device to make the call.
Known	XMS-7337		XMS	MRCP SIP messages are not included in the XMS counters.
Known	XMS-7265		XMS	BYE counters do not include calls that are cleared by the stack.
Known	XMS-6943		XMS	When two calls are joined together, an unjoin must be issued before attempting to play to one of the connections.
Known (permanent)	XMS-7652		WebGUI	On the **Graph** page, the stars next to each dashboard name cannot be selected and the filter for starred dashboards has no effect.

Issue Type	Defect No.	SU No.	Product or Component	Description
Known (permanent)	XMS-7650		WebGUI	When using Edge, the "Refreshing every" drop-down list is missing the selection button.
Known (permanent)	XMS-7647		WebGUI	When using Edge, timestamps on the **Graph** page are badly formatted and may be difficult to read.
Known (permanent)	XMS-7686		XMS	EVS AMR-WB IO in compact header mode is not supported. AMR-NB or AMR-WB in bandwidth efficient mode is not supported. Do not use native record when the call is established using one of these coders; the record will either fail or become corrupted if native is used.
Known (permanent)	XMS-2863		HTTP	When using both HTTPS and lighttpd under high stress, XMS performance is negatively impacted. The factors that cause this are as follows: • The lighttpd can cause performance issues when handling HTTPS transactions. • XMS uses libcurl, which has code that blocks during HTTPS transactions. The performance penalty of using both HTTPS and lighttpd grows under the constant load. This causes the XMS to perform negatively in various ways. For example, delays in fetching prompts and lost media transactions have been observed. During Dialogic testing, these issues were not observed when using Apache, so consider using alternative HTTP servers for high volume deployments.

Issue Type	Defect No.	SU No.	Product or Component	Description
Known (permanent)	XMS-3028		Installation (ISO)	In some cases, text and image overlays for conferencing captions are not visible in video conferences after installing XMS on CentOS 7. To resolve the issue, open a terminal session on the XMS system, update the following packages, and restart the system: `yum update glib2` yum update gdk-pixbuf2
Known (permanent)	XMS-2830		Installation (ISO)	Newer servers require OS install boot media to be UEFI bootable.
Known (permanent)	MRB-378		MRB	`If the MSML join command is sent to a media server prior to receiving an ACK and P-MRB headers are not used, the MSML join command does not function properly in non-proxy mode.`
Known (permanent)	IPY00102868		MSML	Simultaneous play and record with record beep is not possible because both play and record cannot transmit to the same connection.
Known (permanent)	IPY00102674		MSML	When playing audio and video, both files must reside on either local (file://) or server (http://).
Known (permanent)	IPY00102025		MSML	MSML returns error when using the <var> element with "duration" type and "yrs" subtype.
Known (permanent)	XMS-2579		MSML	MSML legacy does not accept session IDs and session versions longer than 9223372036854775807, which causes re-INVITEs to be ignored.
Known (permanent)	XMS-2999		SR140 Software	When using driver modules that are not supplied by Red Hat, the following message is found after rebooting XMS: kernel: boston: module verification failed: signature and/or required key missing - tainting kernel. However, the message is not an indication of an issue.

Issue Type	Defect No.	SU No.	Product or Component	Description
Known (permanent)	XMS-2885		WebGUI	Changing user settings (user passwords, polling times in options menu) can make user credentials temporarily invalid. Refreshing the page in the browser resolves the issue.
Known (permanent)	IPY00117889		XMS	When the creation of a call fails because the destination URI is invalid, the call failure response is not reported and the resources remain in the USE state. If a resource leak is discovered, verify that the destination URI is correct.
Known (permanent)	XMS-6660		XMS	Media files cannot have spaces.
Known (permanent)	XMS-3232		XMS	The API supports both 8 kHz and 16 kHz for the sampling rate of Opus recordings, but XMS internally uses the sampling rate of 16 kHz for generating Opus audio streams.
Resolved	303973		Documentation	SNMP MIBs details specific to XMS are missing.
Resolved	IPY00118288		HMP	XMS ignores Record-Route header value and does not send route information with PRACK.
Resolved	309353		HMP	During join operation, there is poor initial video quality between Google Chrome and native Android app.
Resolved	307923		HMP	XMS fails with SSP crash.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	307865		HMP	XMS will fail to start due to a xmserver crash after upgrading openssl to openssl-1.0.2.k-8.0.1.el7.x86_64. Do not update openssl until this issue is fixed in a future release of XMS. **Note:** Installing XMS software on a new installation of CentOS/RHEL 7.x (or later) that does not have the redhat-lsb package installed or upgrading the redhat-lsb package on existing systems will encounter this issue because the latest redhat-lsb package automatically pulls down the latest version of openssl. There is no simple way to revert back to the 1.0.1e version. For new systems, installing XMS using the ISO method may be used as a workaround as the ISO image contains compatible redhat-lsb and openssl packages.
Resolved	302984		HMP	When mobile device orientation is rotated while recording, the video is distorted.
Resolved	302623		HMP	When joining a call, there is a video delay of over 10 seconds.
Resolved	300739		HMP	Coordination of Video Orientation (CVO) details are not present in answer SDP sent from XMS even when CVO is offered.
Resolved	309046		MRB	VIP is lost after interface restart on MRB.
Resolved	302276		MRB	When trying to cancel adding a media server, the MRB WebGUI crashes.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	298897		MRB	When MRB stopped or started, healthMrbStopped and healthMrbStarted traps are generated but the affected IP address is missing from the variable bindings.
Resolved	309712		MSML	When performing MSML audit request, the XML returned is malformed.
Resolved	300067		MSML	XMS leaves SIP and RTP even after MSML <destroyconference> is set with term="true".
Resolved	IPY00118439		XMS	The cname and msid attributes are missing from XMS SDP.
Resolved	308420		XMS	MSML does not process INFO Request that immediately follows the ACK when 180 is suppressed (Late Media call).
Resolved	301541		XMS	XMS ignores Record-Route header value and sends PRACK to IP address specified in the Contact header.