Dialogic®

Dialogic® PowerMedia™ XMS Release 2.1

Release Notes

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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 2.1, which is a document that is planned to be periodically updated throughout the lifetime of the release.

Revision	Release Date	Notes
05-2716-005 (Updated)	April 2016	Removed WebRTC support.
05-2716-005 (Updated)	January 2015	Release Issues: • Added the following Known (permanent) Issue: XMS-180.
05-2716-005	June 2014	Updates to support PowerMedia XMS Release 2.1 Service Update 2. Post-Release Developments: • OpenSSL Vulnerability Resolved. Release Issues: • Added the following Resolved Defects: IPY00115967, IPY00116027, IPY00116089, IPY00116090, IPY00116214, IPY00116410.
05-2716-004	February 2014	Miscellaneous fixes.
05-2716-003	February 2014	Updates to support PowerMedia XMS Release 2.1 Service Update 1. Post-Release Developments: • PowerMedia XMS Release 2.1 Service Update. • VP8 Video Improvements. Release Issues: • Added the following Resolved Defects: IPY00115653, IPY00115713, IPY00115731, IPY00115769, IPY00115832, IPY00115835, IPY00115845, IPY00115862, IPY00115866, IPY00115867, IPY00115870, IPY00115886, IPY00115906, IPY00115955, IPY00115966, IPY00116029. • Added the following Known Issue: IPY00116067.
05-2716-002	November 2013	Release Features: • Added support for Diagnostics logging.
05-2716-001	October 2013	Updates to support PowerMedia XMS Release 2.1.
05-2716-001-01	August 2013	Initial release of this document.

Revision	Release Date	Notes
Last modified: April 2016		

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

1. Welcome

This Release Notes addresses new features and issues associated with the Dialogic® PowerMedia™ Extended Media Server (also referred to herein as "PowerMedia XMS" or "XMS") Release 2.1. This is a document that is planned to be periodically updated throughout the lifetime of the release.

This Release Notes is 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.
- Installation, Configuration, Licensing, and Upgrading: This section describes topics that are useful for getting started with this release, such as: Installation, Configuration, Licensing, and Upgrading.
- 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

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

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 media server that enables standards-based, real-time multimedia communications solutions for SIP in mobile and broadband environments. PowerMedia XMS is controlled by the business logic of applications deployed on SIP application servers and web application servers to execute 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.

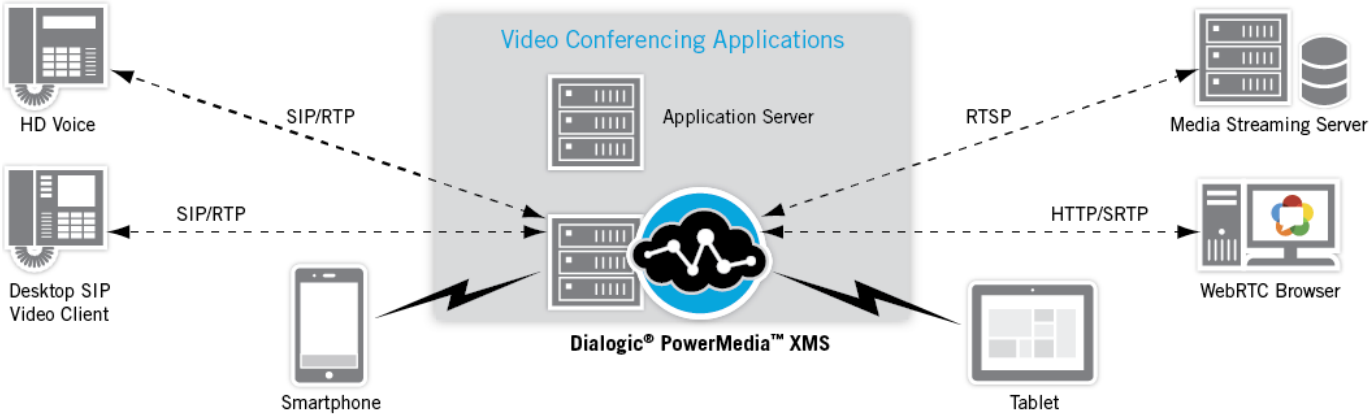
PowerMedia XMS is controlled by the business logic of applications deployed on SIP application servers and web application servers. PowerMedia XMS offers multiple media control protocols that can be used in a variety of network infrastructures. For example, a SIP application server (AS) can drive PowerMedia XMS using the MSML control interface or use the PowerMedia XMS VoiceXML (VXML) browser 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 (such as, Python or JavaScript) can control PowerMedia XMS using the HTTP RESTful interface. Similarly, the JSR 309 Connector Software for PowerMedia XMS (JSR 309 Connector) can enable Java EE developers to control real-time applications from converged application servers.

Note: Network Announcement (NETANN) and VoiceXML (VXML) with Media Resource Control Protocol (MRCP) are interfaces and integral components of PowerMedia XMS.

The MSML, JSR 309 Connector, RESTful and NETANN interfaces support multimedia, both audio and video, using a variety of codecs. VXML media options are currently audio-only. 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.

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



Note: WebRTC functionality is no longer supported on XMS 2.1 due to fundamental changes in the newer versions of Chrome and Firefox. For any further WebRTC work, use XMS 3.0 or later.

Related Information

See the following for additional information:

- PowerMedia XMS datasheet at http://www.dialogic.com.
- PowerMedia XMS documentation at http://www.dialogic.com/manuals.
- PowerMedia XMS technical resources at http://www.dialogic.com/products/media-server-software/download/xms-resources.
- Dialogic technical support at http://www.dialogic.com/support.

3. Related Documentation

This section provides information about the documentation that supports the PowerMedia XMS Release 2.1.

The following documents are available for the PowerMedia XMS Release 2.1 at http://www.dialogic.com/manuals/xms/xms2.1.aspx.

Document	Description
Dialogic® PowerMedia™ XMS Release 2.1 Release Notes	Addresses new features and issues associated with PowerMedia XMS Release 2.1.
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 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 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.

Document	Description
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 VoiceXML Reference Guide	Contains an alphabetical reference of supported VoiceXML elements and provides information about application properties, SSML support, session variables, and application variables.
JSR 309 Connector Software for Dialogic® PowerMedia™ XMS User's Guide	Describes the JSR 309 Connector, provides installation and configuration information, and describes the test servlets included in PowerMedia XMS.

4. System Requirements

This section describes the system requirements for the PowerMedia XMS Release 2.1.

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. Community ENTerprise Operating System (CentOS) 6.4 (provided with the ISO Method installation) Red Hat Enterprise Linux (RHEL) 6.4 Oracle Enterprise Linux (OEL) 6.4 **Note:** The *perl-core-5.10.1-xxxxx.x86_64.rpm* is required if using the RPM Method installation.
Processor	**Minimum:** Intel Xeon E5420 Quad-Core (2.50 GHz, 1333 MHz FSB, 80W) for low density systems running less than 500 channels **Recommended:** Intel Xeon X5650 Dual Hex-Core (2.66 GHz, 1333 MHz FSB) or better for performance systems or 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)
Memory	**Minimum:** 8 GB RAM **Recommended:** 16 GB RAM or higher
Storage	**Minimum:** 250 GB HDD **Recommended:** 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
- Kernel Virtual Machine (KVM)
- Oracle VM
- XEN VM

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 are 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. Testing has shown hypervisor overhead to reduce density by 15-20 percent. Additionally, running more VMs requires extra overhead for hypervisor scheduling of resources between real-time systems.

5. Release Features

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

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

Note: WebRTC functionality is no longer supported on XMS 2.1 due to fundamental changes in the newer versions of Chrome and Firefox. For any further WebRTC work, use XMS 3.0 or later.

PowerMedia XMS Release 2.1

The key new features and functionality include:

- WebRTC Support
  - VP8 Video Codec Support
  - DTLS-SRTP Support
  - ICE Lite Support
  - WebRTC JavaScript API Support
- JSR 309 Connector Enhancements
- MSML API Enhancements
- RESTful Media API Enhancements
- NETANN Enhancements
- Video Enhancements
- OA&M Enhancements
- CentOS, Red Hat Enterprise Linux, and Oracle Enterprise Linux 6.4 64-bit Support
- Oracle VM and XEN Virtualization Support

WebRTC Support

PowerMedia XMS introduces support for WebRTC and related WebRTC protocols.

Overview

WebRTC, standing for Web Real-Time Communications, is an evolving technology standard that enables real-time communication capabilities between browsers and/or WebRTC-enabled endpoints, such as PowerMedia XMS. The World Wide Web Consortium (W3C) and the International Engineering Task Force (IETF) are jointly defining the WebRTC standard.

PowerMedia XMS supports key technologies within the WebRTC standard to allow connection to audio and video enabled WebRTC browsers, such as Chrome and Firefox, and WebRTC-enabled endpoints, such as some SIP clients, that implement the WebRTC protocols.

The key WebRTC technologies implemented in PowerMedia XMS to enable multimedia WebRTC include:

- VP8 Video Codec Support for Real-time Video Communications
- DTLS-SRTP Support for Secure Communications
- ICE Lite Support for NAT Traversal
- WebRTC Javascript API Support for WebRTC Signaling

VP8 Video Codec Support

PowerMedia XMS supports the VP8 video codec as one of the supported video codec options for media streaming or video transcoding up to HD720p. VP8 is an open source, royalty free codec provided by Google for high quality video at varying bit rates. It uses the same concept of most modern video codecs (macroblocks, I-frame, P-frame) in addition to some unique enhancements that optimize the decode/encode process. VP8 is supported by the WebRTC implementations of Firefox and Chrome browsers. PowerMedia XMS supports streaming VP8 to SIP or WebRTC endpoints.

DTLS-SRTP Support

PowerMedia XMS supports Data Transport Layer Security (DTLS) to set up Secure Real-Time Protocol streams, also referred to as DTLS-SRTP.

DTLS protocol (RFC 5764) is required by WebRTC capable devices for key management. A key handshake is performed within the Session Description Protocol (SDP) exchange to set up a secure media stream. It is used in conjunction with SRTP to ensure both RTP and RTCP data is secure; providing protection for RTP media streams against eavesdropping, tampering, or message forgery.

PowerMedia XMS supports DTLS-SRTP exchange and initialization of secure media streams for SIP or WebRTC endpoints when key exchange is performed as part of SDP negotiation.

ICE Lite Support

PowerMedia XMS supports ICE Lite for NAT traversal.

Interactive Connectivity Establishment (ICE) is used by WebRTC capable agents to traverse Network Address Translators (NATs) when establishing multimedia sessions between peer endpoints. The ICE protocol utilizes STUN and TURN to gather proper media address candidates and assure successful media paths between peer endpoints, also known as 'hole-punching'.

In this release, PowerMedia XMS is implemented as an ICE Lite agent. This means that PowerMedia XMS will use a single candidate address (host only) for ICE negotiations. Therefore it is recommended that the PowerMedia XMS have a public IP address at which it can receive packets from remote peer endpoints.

Note: A PowerMedia XMS configuration setting is available to set the public NAT IP address, if there is a consistent public NAT that fronts PowerMedia XMS.

WebRTC Javascript API Support

PowerMedia XMS introduces support for the WebRTC Javascript API.

The WebRTC JavaScript API library is intended for web applications developed using JavaScript. It can be included as part of the rendered web page delivered to the client browser. The WebRTC JavaScript API library handles WebRTC signaling and media establishment (using WebRTC PeerConnection API) between the client and PowerMedia XMS via WebSocket connections. The WebRTC Javascript API is used in in a 1st party call control (1PCC) scenario where a direct signaling connection is established between the WebRTC browser and PowerMedia XMS.

JSR 309 Connector Enhancements

The JSR 309 Connector Software for PowerMedia XMS includes the following enhancements.

JSR 309 Connector Video Support

The JSR 309 Connector supports video endpoints for supported codecs, such as H.263, H.264, MPEG-4 and VP8 from SIP or WebRTC media sources. The JSR 309 Connector also adds support for multimedia functionality including Video Play/Record, Video Conferencing, and Video Conference Recording.

OCCAS 5.1 Support

The JSR 309 Connector supports Oracle Communications Converged Application Server Platform 5.1.

Bridge Network Connection Support

The JSR 309 Connector supports Network Connection (NC) to Network Connection (NC) joins for Audio and Video connection bridging. Audio and Video connections can be joined independently and either half-duplex or full-duplex connections are supported.

MSML API Enhancements

PowerMedia XMS includes the following MSML enhancements.

MSML Dialog Speech Package Support

PowerMedia XMS supports the MSML Dialog Speech Package - "msml-dialog-speech" as defined by RFC 5707. This package allows MSML API users the ability to connect to MRCP Speech servers for Automatic Speech Recognition (ASR) and Text To Speech (TTS) services.

Fax Package Support

PowerMedia XMS supports the MSML Dialog Fax Detection Package - "msml-dialog-fax-detect" as defined by RFC 5707. This package allows MSML API users the ability to detect fax tones as part of the dialog to a call.

RESTful Media API Enhancements

PowerMedia XMS includes the following RESTful Media API enhancements.

MRCP Speech Support for ASR/TTS

PowerMedia XMS supports a new MRCP Resource element in the RESTful Media API to facilitate Speech services. The Media Resource Control Protocol (MRCP) is used by PowerMedia XMS as an interface to Automatic Speech Recognition (ASR) and Text-to-Speech (TTS) systems. MRCP provides an easy way to build voice user interfaces, allowing a grammar to be built for speech input and providing a way to easily translate text into voice prompts without reading and recording them.

NETANN Enhancements

PowerMedia XMS includes the following Network Announcement (NETANN) enhancements.

Video Support

PowerMedia XMS supports establishing NETANN Video Services for SIP or WebRTC video calls. The <annc> URI can be used to play video announcements. The <conf=> URI can be used to establish basic video conferences that adapt to the number of video parties in the conference.

Early Media (PRACK) Announcement Support

PowerMedia XMS supports Early Media announcements with the NETANN service. A user can select to play an announcement file before the SIP call is normally connected. This is a way to play an announcement without connecting the SIP call, for example, in cases where announcements should not be billed.

Sequence Announcement Support

PowerMedia XMS NETANN service now supports playing lists of audio segments. An application specifies a URI that resolves to the MIME type text/uri-list. The NETANN server fetches the files in the uri-list and plays them in sequence.

Video Enhancements

PowerMedia XMS includes the following Video enhancements.

Enhanced Video Error Concealment Support

PowerMedia XMS supports Patent-Pending Enhanced Video Error Concealment technologies to conceal lost portions of missing video frames caused by dropped packets. This Enhanced Video Error concealment is performed on SIP and WebRTC video codecs.

Dynamic Bitrate Adaptation Support

PowerMedia XMS supports dynamically adapting to the changes in video session characteristics for SIP and WebRTC media connections in order to estimate the video session bandwidth requirements in real time and adjust PowerMedia XMS output video bitrate accordingly.

OA&M Enhancements

Operations, Administration, and Maintenance (OA&M) enhancements include new configuration menus, pages, and updates to the following PowerMedia XMS Admin Console functions.

Diagnostics Support

The **Diagnostics** page accessed from the **System** configuration menu provides the option to set the logging level for PowerMedia XMS.

When troubleshooting issues, additional information can be obtained in the logs by setting the logging level to "DEBUG". By default, the logging level is set to "WARN".

CentOS, Red Hat Enterprise Linux, Oracle Enterprise Linux 6.4 64-bit Support

PowerMedia XMS adds support for Community ENTerprise Operating System (CentOS) 6.4, Red Hat Enterprise Linux (RHEL) 6.4, and Oracle Enterprise Linux 6.4 64-bit with Unbreakable Linux Kernel (UEK).

Oracle VM and XEN Virtualization Support

PowerMedia XMS adds virtualization support for two commercially available hypervisors, Oracle Virtual Machine and XEN. For Oracle VM and XEN, it is required that the guest virtual machine operating system be RHEL 6.4/CentOS 6.4/Oracle 6.4.

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 are 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. Testing has shown hypervisor overhead to reduce density by 15-20 percent. Additionally, running more VMs requires extra overhead for hypervisor scheduling of resources between real-time systems.

PowerMedia XMS Release 2.0

For key features and functionality included in PowerMedia XMS Release 2.0, refer to the *Dialogic® PowerMedia™ XMS Release 2.0 Release Notes* at:

http://www.dialogic.com/webhelp/XMS/2.0/XMS_ReleaseNotes.pdf

6. Installation, Configuration, Licensing, and Upgrading

This section describes topics that are useful for getting started with the PowerMedia XMS Release 2.1, such as: Installation, Configuration, Licensing, and Upgrading.

For more details describing how to install software, access the PowerMedia XMS Admin Console for configuration management, and run the verification demo, see the *Dialogic® PowerMedia™ XMS Quick Start Guide*.

For more details providing instructions for installing, configuring, administering, maintaining, and upgrading PowerMedia XMS, see the *Dialogic® PowerMedia™ XMS Installation and Configuration Guide*.

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, see 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, see the *Dialogic® PowerMedia™ XMS Quick Start Guide* and *Dialogic® PowerMedia™ XMS Installation and Configuration Guide*.

Configuration

There are two configuration methods available:

- PowerMedia XMS Admin Console
- RESTful Management API

PowerMedia XMS Admin Console

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

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

Licensing

PowerMedia XMS comes with a 2-port verification license to get started. The name of the license file is *verification.lic*.

A temporary 4-port trial license for 45 days can also be obtained from the Dialogic website at http://www.dialogic.com/products/media-server-software/xms/xms-download.aspx.

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:

- **Host-based Licensing**
  The license is associated with a particular machine based on the machine's MAC address (Host ID).
- **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.

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.

System Upgrade

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 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.

7. Post-Release Developments

This section describes significant changes to the PowerMedia XMS Release 2.1 subsequent to the general availability release.

PowerMedia XMS Release 2.1 Service Update

This Service Update for PowerMedia XMS Release 2.1 is now available. This 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*.

OpenSSL Vulnerability Resolved

A vulnerability "Heartbleed bug" has been identified in the OpenSSL cryptographic software library. In PowerMedia XMS, the vulnerability was limited to WebRTC connections between PowerMedia XMS and WebRTC clients in a production environment. This Service Update 2 resolves the vulnerability in the WebRTC component.

PowerMedia XMS also makes use of the operating system version of the OpenSSL library in several other components. For RPM installations, the user should check the operating system version of OpenSSL to make sure this vulnerability does not apply. For ISO installations, the version of OpenSSL included is not affected by the issue. If any updates or patches have been applied to the operating system, then the user should check the installed version of OpenSSL.

Additional information about the Heartbleed bug can be found at http://heartbleed.com.

VP8 Video Improvements

Service Update 1 includes VP8 video improvements for calls over networks with packet loss.

8. Release Issues

This section lists the issues that may affect the PowerMedia XMS Release 2.1.

Limitations

The RPM installation method has the following limitations:

- WebRTC functionality is no longer supported on XMS 2.1 due to fundamental changes in the newer versions of Chrome and Firefox. For any further WebRTC work, use XMS 3.0 or later.
- The RPM installation method can automatically install prerequisite operating system packages. If installing PowerMedia XMS on an existing Oracle or RHEL 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. This is not necessary if installing on CentOS system.
- When installing on RHEL or Oracle system, some repositories do not contain the necessary i686 versions of required prerequisite packages. For example, the ImageMagick-c++ i686 package is not included in certain Oracle repositories. If this error occurs during PowerMedia XMS installation, use the following workaround:
    - Determine if any ImageMagick packages are installed on the system by running the following command:

      ```
      rpm -qa | grep ImageMagick
      ```

    - If any ImageMagick packages are installed, uninstall them with a command similar to the following:

      ```
      rpm -e ImageMagick.i686
      ```

    - When all ImageMagick packages are removed from the system, install the ImageMagick packages included in the PowerMedia XMS distribution. The PowerMedia XMS distribution subdirectory "xms_distribution" contains ImageMagick packages that can be installed on the Oracle or RHEL system. Use the following command to install the packages:

      ```
      rpm -ivh -p ImageMagick-6.5.4.7-5.el6.i686.rpm ImageMagick-c++-6.5.4.7-
      5.el6.i686.rpm
      ```

- When upgrading a previous PowerMedia XMS installation using the RESTful interface, verify the route entries in the **Routes** page of the PowerMedia XMS Admin Console after the upgrade completes.

Issues Table

The table below lists issues that affect the PowerMedia XMS Release 2.1. 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 problem relates; for example, an API.

Description

A summary description of the issue. For non-resolved issues, a workaround is included when available.

Issues Sorted by Type, PowerMedia XMS Release 2.1

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	IPY00115967	2	MSML	When the Graceful Shutdown time expires, XMS is not sending BYE to the active calls if there is an active play dialog.
Resolved	IPY00116214	2	VXML	When using namelist, there is issue with content encoding in BYE message.
Resolved	IPY00116090	2	VXML	The maxtime parameter of the <record> tag in VXML is limited internally to 3600 seconds. This restriction has been removed.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	IPY00116089	2	WebUI	There is no option to disable session timers in XMS.
Resolved	IPY00116027	2	WebUI	The "Restrict Access to Specified Host'' feature does not accept wildcards.
Resolved	IPY00116410	2	XMS	Due to bad certificate, the web browser needs to be restarted after XMS restart.
Resolved	IPY00115769	1	IP Call Control	Issue where retry messages are not handled properly, resulting in 500 CSeq Too Small For This Call response.
Resolved	IPY00115966	1	MSML	In MSML mode, XMS will shut down immediately if idle or once all calls end without waiting for the shutdown timer to expire.
Resolved	IPY00115713	1	MSML	Issue when handling video conferences with 10 regions.
Resolved	IPY00115731	1	NETANN	Conference request is rejected with 503 response if video codecs were disabled (audio only conference).
Resolved	IPY00115845	1	Video	Interoperability issues with CounterPath Bria client.
Resolved	IPY00115653	1	Video	Interoperability issues with Cisco TelePresence equipment when updating a video call with SDP.
Resolved	IPY00115955	1	VXML	When running under load, there is segmentation fault in VXML interpreter.
Resolved	IPY00115832	1	VXML	The prompt file does not play when using <mark> tag after grammar/DTMF collection.
Resolved	IPY00115862	1	VXML	There is an issue where session information is saved between page requests.

Issue Type	Defect No.	SU No.	Product or Component	Description
Resolved	IPY00115866	1	VXML	When using IPMS/VXML scripts against XMS/VXML, there is interpreter parsing error (case sensitivity of URI parameters).
Resolved	IPY00115867	1	VXML	The record element response on hangup contains 0ms for the duration.
Resolved	IPY00115870	1	VXML	Issue with audio MIME type that results in an invalid "audio/x-wav" error.
Resolved	IPY00115886	1	VXML	The recording type=''audio/x-alaw-basic" is not working.
Resolved	IPY00115906	1	VXML	The record element response DTMF is not populated in application.lastresult$ when terminating on digit.
Resolved	IPY00116029	1	VXML	VXML is not logging to proper directory.
Resolved	IPY00115835	1	XMS	Issue with G.723 5.3 and 6.3 kbps SDP negotiation.
Known	IPY00116067	1	MSML	Record with pre speech and post speech silence detection tests are failing at a high rate.
Known	IPY00115506		MSML	Under certain circumstances, recorded media may be delayed by up to 500ms even though the media server returned a record started event to the application server.
Known	IPY00115249		MSML	Under load and longevity testing, the native MSML tests fail a low percentage (0.1%) of the time.

Issue Type	Defect No.	SU No.	Product or Component	Description
Known	IPY00115437		MSML	In this case of a <record> with a child <play>, the record does not start until the play is complete. Once the record begins, it can be terminated with the requested termkey.
Known	IPY00115181		MSML	Media Server does not respond with a 200 OK to INFO message when the MIME body is greater than 32k.
Known	IPY00102880		MSML	The grammar element fails if xml:lang attribute is not included. The grammar element is simply passed through to the speech server. It is the responsibility of the script author to ensure that the SRGS is valid and is processed correctly by the speech server.
Known	IPY00102877		MSML	Media Server cannot send INFO messages greater than 8k.
Known	IPY00102829		MSML	The append attribute is not supported when recording to a file on HTTP server.
Known	IPY00102697		MSML	Parallel record is not supported by the Media Server.
Known	IPY00102613		MSML	Media Server is ignoring the audiosamplerate and audiosamplesize attributes for the recording.
Known	IPY00101503		MSML	Under legacy MSML testing, the next test fails due to small digit leak.

Issue Type	Defect No.	SU No.	Product or Component	Description
Known	IPY00101066		MSML	Media Server response INFO event in UDP when a client establishes a connection in TCP.
Known	IPY00115489		Virtual Machine	Transmit queue length by default is set to 32 on the Oracle VM host. This limits network latency and hampers SSP. The host needs to have the txqueuelen for device vif1.0 set to 1000 permanently; otherwise a reboot will lose the setting and return to 32.
Known	IPY00115251		VXML	Under load testing, the VXML with MRCP tests fail a low percentage (0.5%) of the time.
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-180		MSML	For legacy MSML, the value for <var> silence should be in 1 ms units. The MSML documentation states 100 ms units.