



Release Notes

Version 8.5.10 | March 2016 | 3725-74102-000B1

# RealPresence<sup>®</sup> Collaboration Server (RMX)

1500/1800/2000/4000



---

Copyright© 2016, Polycom, Inc. All rights reserved. No part of this document may be reproduced, translated into another language or format, or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of Polycom, Inc.

6001 America Center Drive  
San Jose, CA 95002  
USA



Polycom®, the Polycom logo and the names and marks associated with Polycom products are trademarks and/or service marks of Polycom, Inc. and are registered and/or common law marks in the United States and various other countries. All other trademarks are property of their respective owners. No portion hereof may be reproduced or transmitted in any form or by any means, for any purpose other than the recipient's personal use, without the express written permission of Polycom.



Java is a registered trademark of Oracle America, Inc., and/or its affiliates.

**End User License Agreement** By installing, copying, or otherwise using this product, you acknowledge that you have read, understand and agree to be bound by the terms and conditions of the End User License Agreement for this product. The EULA for this product is available on the Polycom Support page for the product.

**Patent Information** The accompanying product may be protected by one or more U.S. and foreign patents and/or pending patent applications held by Polycom, Inc.

**Open Source Software Used in this Product** This product may contain open source software. You may receive the open source software from Polycom up to three (3) years after the distribution date of the applicable product or software at a charge not greater than the cost to Polycom of shipping or distributing the software to you.

**Disclaimer** While Polycom uses reasonable efforts to include accurate and up-to-date information in this document, Polycom makes no warranties or representations as to its accuracy. Polycom assumes no liability or responsibility for any typographical or other errors or omissions in the content of this document.

**Limitation of Liability** Polycom and/or its respective suppliers make no representations about the suitability of the information contained in this document for any purpose. Information is provided "as is" without warranty of any kind and is subject to change without notice. The entire risk arising out of its use remains with the recipient. In no event shall Polycom and/or its respective suppliers be liable for any direct, consequential, incidental, special, punitive or other damages whatsoever (including without limitation, damages for loss of business profits, business interruption, or loss of business information), even if Polycom has been advised of the possibility of such damages.

**Customer Feedback** We are striving to improve our documentation quality and we appreciate your feedback. Email your opinions and comments to [DocumentationFeedback@polycom.com](mailto:DocumentationFeedback@polycom.com).

**Polycom Support** Visit the [Polycom Support Center](#) for End User License Agreements, software downloads, product documents, product licenses, troubleshooting tips, service requests, and more.

# Contents

---

<b>Version 8.5 - New Features List</b> .....	<b>1</b>
<b>Version 8.5 - Changes to Existing Features</b> .....	<b>2</b>
<b>Version 8.5.4 - New Features List</b> .....	<b>5</b>
<b>Version 8.5.10 - New Features List</b> .....	<b>7</b>
<b>Products Tested with this Release</b> .....	<b>8</b>
<b>Polycom Solution Support</b> .....	<b>14</b>
<b>RMX Web Client</b> .....	<b>15</b>
<b>Windows 7™ Security Settings</b> .....	<b>16</b>
<b>Internet Explorer 8 Configuration</b> .....	<b>18</b>
<b>Version 8.5 - Upgrade Package Contents</b> .....	<b>21</b>
<b>RMX 1500/1800/2000/4000 Software Upgrade Procedures</b> .....	<b>22</b>
Upgrade Guidelines .....	22
Collaboration Server (RMX) 2000/4000 Hardware / Software Version Support .....	24
Safe Upgrade Paths to Version 8.5 .....	25
Upgrading from Version 8.3 / 8.4 to Version 8.5 .....	27
Additional/Optional System Considerations After Upgrade .....	31
<b>Version 8.5 Detailed Description - New Features</b> .....	<b>32</b>
New Admin User for Polycom Services .....	32
Media Traffic Shaping .....	32
Traffic Shaping Guidelines .....	33
System Flags .....	33
Capacity During Traffic Shaping .....	34
ISDN/PSTN Support in RMX 1800 .....	34

Supported Features and Limitations .....	35
Non-supported Features .....	35
Changes in User Interface .....	36
ISDN/PSTN Tables for Collaboration Server 1800 .....	36
Siren 7 Codec Support for SIP Calls .....	38
System Flag .....	38
VSW on RealPresence Collaboration Server 1800 .....	39
Capacity .....	39
<b>Version 8.5 - Detailed Description of Changes to Existing Features .....</b>	<b>40</b>
Supporting 1080p Video Resolution in SVC Conferences .....	40
Operation Points .....	40
Endpoint Experience .....	42
User Interface Aspects .....	42
1080p Content in SVC Mode and Legacy Content in Mixed Mode .....	43
User Interface Aspects .....	44
Performance Tables .....	47
Negotiation Rates for Base and High Profiles .....	47
Highest Common .....	48
Fixed Rates .....	50
Lync 2013 Improvements .....	52
HD1080p Resolution Support .....	52
Limit Maximum Resolution for MS SVC Using a System flag .....	52
CSS Gateway for RDP and SIP BFCP Content .....	52
CSS Gateway Usage Guidelines .....	52
FEC (Forward Error Correction) Support .....	53
IPv6 Support .....	53
DHCPv6 Support for Auto IPv6 Address Assignment .....	54
Collaboration Server Managing Telepresence Speaker Priority Layouts for AVC Endpoints ..	54
Speaker Priority .....	54
Reserved Screens .....	54
Grid Screens .....	55
Video Layout Examples .....	55
Changes to the Profile - Video Settings Dialog .....	58
RPP REST API Support in Version 8.5 .....	59
Advanced Network Resiliency .....	60
Added System Flag .....	61
<b>Version 8.5.4 Detailed Description - New Features .....</b>	<b>62</b>
Locking and Unlocking a Conference via MCU .....	62

Conference locking via XML API .....	64
Reestablishing Connection via DMA to AV MCU Following Collaboration Server Failure	65
Cascading Conference Reestablishment Process .....	65
Reestablished Cascading Conference Termination .....	65
DNS Load Balancing on Lync Front End Pool .....	66
Wait for Chairperson when Collaboration Server is in Lync AV MCU Lobby .....	67
Support for Skype for Business .....	69
Configuration option to disable G.729 .....	69
New Certificate Signing Request (CSR) Guideline .....	69
Enable Chairperson Managing Cascaded Meetings .....	71
Process Description .....	71
Chairperson in Cascading Environment Guidelines .....	71
Error Handling .....	72
<b>Version 8.5.10 Detailed Description - New Features .....</b>	<b>73</b>
Enable Personal Layout in Lecture Mode .....	73
<b>Corrections and Known Limitations .....</b>	<b>74</b>
Corrections between Version 8.5.4 and Version 8.5.10 .....	74
Corrections between Version 8.5.3 and Version 8.5.4 .....	79
Corrections between Version 8.5.2 and Version 8.5.3 .....	83
Corrections between Version 8.5 and Version 8.5.2 .....	83
Corrections between Version 8.4 and Version 8.5 .....	86
Known Limitations .....	87
<b>RMX Web Client Installation - Troubleshooting Instructions .....</b>	<b>104</b>
Collaboration Server Web Client Installation - Troubleshooting Instructions .....	104
Procedure 1: Ending all Internet Explorer Sessions .....	105
Procedure 2: Deleting the Temporary Internet Files, RMX Cookie and RMX Object ...	105
Deleting the Temporary Internet Files .....	106
Deleting the RMX/Collaboration Server Cookie .....	108
Deleting the RMX/Collaboration Server ActiveX Object .....	110
Procedure 3: Managing Add-ons Collisions .....	111
Procedure 4: Add the Collaboration Server to the Internet Explorer Trusted Sites List .	112
Procedure 5: Browser Hosting Controls (Optional) .....	113

# Version 8.5 - New Features List

The following table lists the new features in 8.5

## Version 8.5 - New Features

Category	Feature Name	Description	Card Mode/Platform		
			MPMx	MPMRx	1800
Administration	Added Administrator User for Polycom Services	Provide a pre-defined admin user (and password) for DMA usage during installation cleanup.	8.5	8.5	8.5
Video	Media Traffic Shaping	The MCU supplies a media traffic shaper to control video bandwidth outbursts within 100ms time intervals.	8.5	8.5	8.5
Video	Support ISDN and PSTN participants in RMX 1800	ISDN and PSTN participants can join RMX 1800 hosted conferences.	✓	✓	8.5
Conferencing	VSW in RMX1800	Added support for Video Switching (VSW) conferencing in RealPresence Collaboration Server 1800.	✓	✓	8.5
Audio	Siren7 Audio Codec Support for SIP Calls	The MCU now supports Siren7 Audio Codec for SIP calls (such as Lync client), to prevent failure of calls with audio bit rate under 42Kpbs when 33Kpbs audio bit rate policy is allowed by Lync server.	8.5	8.5	8.5

# Version 8.5 - Changes to Existing Features

The following table lists the changes to existing features in 8.5.

## Version 8.5 - Changes to Existing Features

Category	Feature Name	Description	Card Mode/Platform		
			MPMx	MPMRx	1800
Partners - Microsoft	Lync 2013 Improvements	The following improvements have been made to Lync: <ul style="list-style-type: none"> <li>• HD1080p Resolution Support</li> <li>• FEC (Forward Error Correction) Support</li> <li>• CSS Gateway for RDP and SIP BFCP Content</li> <li>• IPv6 Support for Auto IPv6 Address Assignment</li> <li>• DHCPv6 Support</li> </ul>	✓	✓	✓
Capacity	Template Support	Support for conference templates has been increased to 400 templates.	✓	✓	✓
IVR	Pre-Conference IVR (VEQ)	While the call is in a Virtual Entry Queue (VEQ) ("External IVR Control" or "IVR Only Service Provider"), the call is always connected as an AVC call irrespective of the conferencing mode. Only when the call is routed to a conference and both the conferencing mode and endpoint enables SVC is the call connected as SVC.	✓	✓	✓
TIP	TIP Compatibility	The TIP compatibility options "Video Only" and "Video and Content" in the Conference Profile Advanced settings dialog are no longer supported. The "Prefer TIP" option is used instead.	✓	✓	✓
IVR	Pre-Conference MCCF/IVR Customized Slides	Audio and customized .JPG media files are now locally converted by the MCU into supported formats (263, 264, RTV, and TIP).	✓	✓	✓

## Version 8.5 - Changes to Existing Features

Category	Feature Name	Description	Card Mode/Platform		
			MPMx	MPMRx	1800
Capacity	Support 300 SVC ports per card in MPM-Rx	Support for the number of SVC (only) ports for MPM-Rx has been increased from 200 to 300. The maximum number of participants per call (200) has not been extended.	x	✓	✓
Licencing	Ratio of 1:12 for audio calls	License entitlement ratio has been changed from 1:2 to 1:12. Capacity has been increased from 200 to 300 audio ports per MPMRx card.	✓	✓	✓
SVC	Support 1080p Video in SVC Conferences	A new set of operation points (1080p, 360p, 180p) is supported, with 1080p as the highest resolution.	x	✓	✓
SVC	Support 1080p60 Content in SVC Conferences	The MCU supports SVC calls at line rates of up to 4M, with resolutions of up to 1080p60, and content configuration options similar to those available in AVC calls, such as content settings, protocols, transcoding, etc.	x	✓	✓
REST API	Add ETag to PUT method	An Etag field is added to REST API PUT methods in supported resources.	✓	✓	✓
REST API	REST DNS Configuration and NTP DNS Resolution	In PUT method, it is possible to replace the IP address with the NTP server name in the ntp-server-list parameter. The specified DNS server is used for translating this name into an address.	✓	✓	✓
Capacity	Support for 300 Audio Participants on MPMRx-D	Support for 300 Audio participants (not including Siren LPR Stereo) on MPMRx-D has been enabled for CP, mixed CP, and SVC conferences.	x	✓	✓
Content	Advanced network resiliency	System flag to reduce content rate (in single MCU scenarios) or limit LPR support (in cascade), in order to preserve bandwidth if video rate reduction is insufficient.	✓	✓	✓
Content	System flag to enable 768Kbps Content in 1K Conferences	System flag to enable increasing content rate from the usual 512 Kbps to 768 Kbps in 1K conferences.	✓	✓	✓



**Version 8.5 - Changes to Existing Features**

Category	Feature Name	Description	Card Mode/Platform		
			MPMx	MPMRx	1800
TelePresence	Speaker Priority Mode	The Collaboration Server can be used to manage Continuous Presence Video Layouts using <i>Speaker Priority</i> , a new Telepresence Layout Mode.	✓	✓	✓
Security	OpenSSL	Updated third party software addresses security vulnerabilities in OpenSSL.	✓	✓	8.5

# Version 8.5.4 - New Features List

The following table lists the new features in 8.5.4.

## Version 8.5.4 - New Features

Category	Feature Name	Description	Card Mode/Platform		
			MPMx	MPMRx	1800
Conferencing	Conference Lock/Unlock	Conference locking and unlocking is now enabled via XML API, Web GUI and RMX Manager.	✓	✓	✓
Lync 2013	RMX failover through DMA - handling Lync 2013 AV MCU connection.	Should the Collaboration Server fall during a RealConnect conference with Microsoft Lync, the DMA re-established both the conference and its link with the AV MCU on an alternate Collaboration Server, and disconnects all links to original MCU.	✓	✓	✓
Lync 2013	Lync Front End Server DNS Failover/Load Balancing.	The Collaboration Server uses a new methodology to ensure Lync Front End Pool load balancing, as well as failover, via DNS	✓	✓	✓
Lync 2013	MSFT - wait for chair person in case in RMX is in Lync AV MCU lobby.	Imitating definition of conference with chairperson behavior in a RealConnect conference with Microsoft Lync, including the Lync participants.	✓	✓	✓
Lync	Support for Microsoft® Skype for Business	Polycom added support for Microsoft® Skype for Business as part of Polycom products' deployment into Microsoft Environment. <b>Note:</b> The latest RPP versions are required.	✓	✓	✓
Audio	Disable G.729 codec through flag in favor of G.711.	A system flag allows disabling G.729 is favor of G.711, when there is a requirement for higher audio quality.	✓	✓	✓

**Version 8.5.4 - New Features**

Category	Feature Name	Description	Card Mode/Platform		
			MPMx	MPMRx	1800
Cascade	Support chairperson in cascaded conferences.	The behavior of a conference with a chairperson is widened to encompass cascading scenarios. Requires supporting DMA version.	✓	✓	✓
Licensing	New CSR Guideline	New CSR guideline introduced.	✓	✓	✓

# Version 8.5.10 - New Features List

The following table lists the new features in 8.5.10.

## Version 8.5.10 - New Features

Category	Feature Name	Description	Card Mode/Platform		
			MPMx	MPMRx	1800
Conferencing	Enable Personal Layout in Lecture Mode	Conferences in Lecture mode allow modifying participants' Personal layout	✓	✓	✓

# Products Tested with this Release

The RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 system is tested extensively with a wide range of products. The following list is not a complete inventory of compatible equipment. It indicates the products that have been tested for compatibility with this release.



## Note: Supported Products

You are encouraged to upgrade all your Polycom systems with the latest software before contacting Polycom support to ensure the issue has not already been addressed by vendor software updates.

Go to [http://support.polycom.com/PolycomService/support/us/support/service\\_policies.html](http://support.polycom.com/PolycomService/support/us/support/service_policies.html) to find the Current Polycom Interoperability Matrix.

## Devices Tested with Collaboration Server V8.5

Device	MCU Type		
	1500/2000/4000	1800	Virtual Edition
<b>Gatekeepers/Proxies</b>			
Polycom® RealPresence® Resource Manager	6.2.5 (Gatekeeper)	6.2.5	6.2.5
Polycom® Virtual Resource Manager	8.3.0_71	8.3.0_71	8.3.0_71
Polycom® Virtual XMA	8.3.0_71		8.3.0_71
Cisco 3241 Gateway	2.2(1.49)		
Radvision ECS gatekeeper	7.7.0.0.27		
Radvision Serial Gateway	5.7.2.1.47		
Codian 4505 MCU	4.5(1.45)		
Lync 2010 server	4.0.7577.230 (CU12)	4.0.7577.230 (CU12)	4.0.7577.230 (CU12)
Lync 2013 server	5.0.8308.733 (CU5)	5.0.8308.733 (CU5)	5.0.8308.733 (CU5)
MS Exchange 2010	14.03.0195.001 SP3 UR6	14.03.0195.001 SP3 UR6	14.03.0195.001 SP3 UR6
MS Exchange 2013	15.00.0913.022 CU5	15.00.0913.022 CU5	15.00.0913.022 CU5

**Devices Tested with Collaboration Server V8.5**

Device	MCU Type		
	1500/2000/4000	1800	Virtual Edition
Polycom® RealPresence® DMA® 7000	6.2.0-172210	6.2.0-172210	6.2.0-172210
Polycom® RealPresence® Virtual DMA	6.2.0-172210	6.2.0-172210	6.2.0-172210
DMA TCSPi	3.2.5-164620	3.2.5-164620	3.2.5-164620
Polycom® RealPresence® Capture Server	1.8.0.0-16528	1.8.0.0-16528	1.8.0.0-16528
BroadWorks	AS version Rel_20.sp1_1.606	AS version Rel_20.sp1_1.606	AS version Rel_20.sp1_1.606
ACME	SBC ACME Net-Net 3820 SCX6.4.0 MR-3 GA (Build 298)	SBC ACME Net-Net 3820 SCX6.4.0 MR-3 GA (Build 298)	SBC ACME Net-Net 3820 SCX6.4.0 MR-3 GA (Build 298)
RPAD	4.1.0-16110	4.1.0-16110	4.1.0-16110
<b>Recorders</b>			
Polycom® RSS™ 4000	8.5.2	8.5.2	8.5.2
Polycom® Virtual RSS™	8.6.0.0-36610		8.6.0.0-36610
<b>MCUs, Call Managers Network Devices and Add ins</b>			
Radvision Scopia P10 Gateway	5.7.2.1.47		
Avaya Aura Session Manager	6.3.0.8.5682	6.3.0.8.5682	6.3.0.8.5682
Avaya Aura CM	R016x.03.0.124.0	R016x.03.0.124.0	R016x.03.0.124.0
Cisco SBC	3.7.3	3.7.3	
Cisco CUCM	9.1.(2)SU2a	9.1.(2)SU2a	
Cisco TMS	14.3.1	14.3.1	
Cisco TPS	4.0(2.8)	4.0(2.8)	
Cisco VCS	X8.2.1	X8.2.1	
Crestron Controller	4.001.1012	4.001.1012	
Crestron Polycom Build	3.1.2-2	3.1.2-2	
Polycom® MLA	3.1.4.6	3.1.4.6	
Polycom® TelePresence Tool	3.1.4.1	3.1.4.1	
Cisco TelePresence Server	4.0(2.8)	4.0(2.8)	

**Devices Tested with Collaboration Server V8.5**

Device	MCU Type		
	1500/2000/4000	1800	Virtual Edition
IBM Sametime Server	Sametime 9.0.0 version	Sametime 9.0.0 version	Sametime 9.0.0 version
OpenScape SBC	V8R0.6.0	V8R0.6.0	V8R0.6.0
Siemens OSV	V8R0.26.5	V8R0.26.5	V8R0.26.5
<b>Endpoints</b>			
Polycom® HDX® Family	3.1.5-5568	3.1.5-5568	3.1.5-5568
Polycom® GS® Family	4.2.0-11300	4.2.0-11300	4.2.0-11300
PTC Panel SW	OS4.2.0-214 / TP 4.2-11300	OS4.2.0-214 / TP 4.2-11300	
PTC OS	OS1.11.0-14/TP1.11.0-1 5	OS1.11.0-14/TP1.11.0-1 5	
Polycom® OTX®	3.1.5-5568	3.1.5-5568	
Polycom® RPX®	3.1.5-5568	3.1.5-5568	
Polycom® VSX and V-Series Family	9.0.6.2	9.0.6.2	9.0.6.2
Polycom® RealPresence® Desktop	3.3.0-50440	3.3.0-50440	3.3.0-50440
Polycom® Viewstation® Family	7.5.4 or higher	7.5.4 or higher	7.5.4 or higher
Polycom® Viewstation® FX/EX/4000	6.0.5 or higher	6.0.5 or higher	6.0.5 or higher
Polycom® Resource Manager Desktop	5.2.6	5.2.6	5.2.6
Polycom® Resource Manager Desktop for MAC	5.2.6	5.2.6	5.2.6
Polycom® QDX6000®	4.0.3	4.0.3	4.0.3
RPM IOS iPhone	3.3.0-50423	3.3.0-50423	3.3.0-50423
RPM IOS iPad	3.3.0-50423	3.3.0-50423	3.3.0-50423
RPM Android Phone	3.3.0-50423	3.3.0-50423	3.3.0-50423
RPM Android Tablet	3.3.0-50423	3.3.0-50423	3.3.0-50423
RPD (PC)	3.3.0-50440	3.3.0-50440	3.3.0-50440
RPD (Mac)	3.3.0-50440	3.3.0-50440	3.3.0-50440
Polycom® m100	1.0.7	1.0.7	1.0.7

## Devices Tested with Collaboration Server V8.5

Device	MCU Type		
	1500/2000/4000	1800	Virtual Edition
Polycom® VVX1500	5.1.2	5.1.2	5.1.2
Polycom® VVX500	5.1.2	5.1.2	5.1.2
Polycom® VVX600	5.1.2	5.1.2	5.1.2
Polycom® Sound Point® 601 SIP	3.1.7	3.1.7	3.1.7
Polycom® SoundPoint® 650 SIP	4.0.7	4.0.7	4.0.7
Polycom® PVX™	8.0.16	8.0.16	8.0.16
Polycom® iPower® 9000	6.2.x	6.2.x	6.2.x
Polycom® SoundStation® IP4000 SIP	3.1.7	3.1.7	3.1.7
Polycom® SoundStation® IP7000	4.0.6	4.0.6	4.0.6
Polycom® HDX® Touch Controller	OS1.11.0-14/TP1.11.0-15	OS1.11.0-14/TP1.11.0-15	OS1.11.0-14/TP1.11.0-15
Polycom® Group Series® Touch Controller	OS4.2.0-214 / TP 4.2-11300	OS4.2.0-214 / TP 4.2-11300	OS4.2.0-214 / TP 4.2-11300
Avaya Voice Phone	S3.171b	S3.171b	S3.171b
Avaya one-X Communicator	6.1.9.04-SP9-132	6.1.9.04-SP9-132	6.1.9.04-SP9-132
Avaya 1000 series endpoint	4.8.3(23)	4.8.3(23)	4.8.3(23)
Avaya Flare Desktop	1.1.3.14	1.1.3.14	1.1.3.14
Avaya ADVD	1_1_2_020002	1_1_2_020002	1_1_2_020002
Avaya Flare Mobile (iOS)	2	2	2
LifeSize Room and Express	4.7.22(3)	4.7.22(3)	4.7.22(3)
LifeSize ICON 600	2.0.0	2.0.0	2.0.0
LifeSize Express 220	4.12.3(4)	4.12.3(4)	4.12.3(4)
LifeSize Team 200	4.7.22(3)	4.7.22(3)	4.7.22(3)
LifeSize Team 220	4.12.3(4)	4.12.3(4)	4.12.3(4)
LifeSize Passport	4.12.0(30)	4.12.0(30)	4.12.0(30)
LifeSize SoftPhone	8.1.12	8.1.12	8.1.12
Cisco (Tandberg) EX90	7.1.4	7.1.4	



## Devices Tested with Collaboration Server V8.5

Device	MCU Type		
	1500/2000/4000	1800	Virtual Edition
Cisco (Tandberg) C Series	7.1.4	7.1.4	
Cisco SX20	7.1.4	7.1.4	
Cisco CTS3010 (Telepresence)	1.10.7(5)	1.10.7(5)	
Cisco CTS1300 (Telepresence)	1.10.7(5)	1.10.7(5)	
Cisco TX9000	6.1.4(10)	6.1.4(10)	
TX 1310	6.1.4(10)	6.1.4(10)	
Cisco CTS500-37	1.10.7(5)	1.10.7(5)	
Cisco CTS500-32	6.1.4(10)	6.1.4(10)	
Jabber iPad	9.3.6 (21856)	9.3.6 (21856)	---
Jabber Video for Telepresence (windows)	4.8.8.18390	4.8.8.18390	---
Radvision SCOPIA XT1000 endpoint	2.5.416	2.5.416	2.5.416
Radvision Scopia XT5000	8.3.0.61	8.3.0.61	8.3.0.61
Sony PCS –1	3.42	3.42	3.42
Sony PCS –G50	2.72	2.72	2.72
Sony PCS –TL50	2.42	2.42	2.42
Sony PCS-G90	2.22	2.22	2.22
Sony PCS-XG80	2.42	2.42	2.42
Sony PCS-XG100	1.2	1.2	1.2
Tandberg 1700 MXP	F9.3.1	F9.3.1	F9.3.1
Tandberg Edge95 MXP	F9.3.1	F9.3.1	F9.3.1
Tandberg T150	L6.1	L6.1	L6.1
CSS Server	1.4.0.2008	1.4.0.2008	1.4.0.2008
Addon client	1.4.0.2008	1.4.0.2008	1.4.0.2008
Microsoft Lync 15 client	15.0.4649.1000	15.0.4649.1000	15.0.4649.1000
Microsoft Lync 14 client	4.0.7577.4446	4.0.7577.4446	4.0.7577.4446
Polycom® CX7000	1.2.0.5558	1.2.0.5558	1.2.0.5558

**Devices Tested with Collaboration Server V8.5**

Device	MCU Type		
	1500/2000/4000	1800	Virtual Edition
Polycom® CX500 / CX600	5.1.2.1801	5.1.2.1801	5.1.2.1801
Siemens ODC	V7R1.40.0	V7R1.40.0	V7R1.40.0
Siemens OpenStage Desktop Voice	V3 R3.11.0	V3 R3.11.0	V3 R3.11.0
IBM-same time Connect client	Sametime 9.0	Sametime 9.0	Sametime 9.0
IBM Sametime Lotus client	Sametime 9.0	Sametime 9.0	Sametime 9.0
IBM Same time web AV client SVC	Sametime 9.0	Sametime 9.0	Sametime 9.0
IBM Same time web AV client AVC	Sametime 9.0	Sametime 9.0	Sametime 9.0

# Polycom Solution Support

---

Polycom Implementation and Maintenance services provide support for Polycom solution components only. Additional services for supported third-party Unified Communications (UC) environments integrated with Polycom solutions are available from Polycom Global Services and its certified Partners. These additional services will help customers successfully design, deploy, optimize and manage Polycom visual communications within their UC environments.

Professional Services for Microsoft Integration is mandatory for Polycom Conferencing for Microsoft Outlook and Microsoft Office Communications Server integrations. For additional information and details please see [http://www.polycom.com/services/professional\\_services/index.html](http://www.polycom.com/services/professional_services/index.html) or contact your local Polycom representative.

# RMX Web Client

The following table lists the environments (Web Browsers and Operating Systems) with which the RMX Web Client was tested.

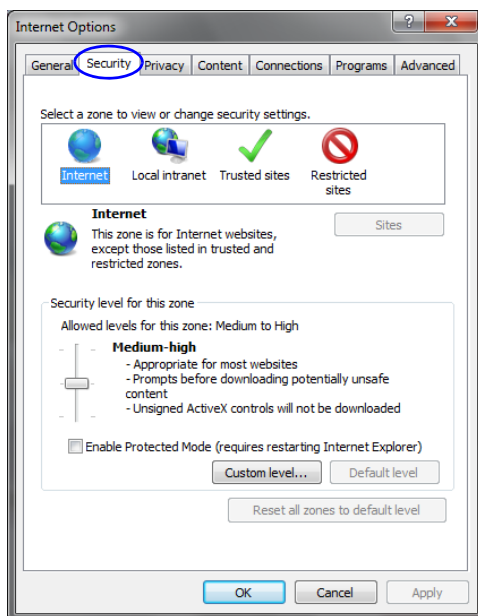
Web Browser	Operating System
Internet Explorer 7	Windows Vista™
	Windows 7
Internet Explorer 8	Windows 7
Internet Explorer 9	Windows 7 and Windows 8
Internet Explorer 10	Windows 7 and Windows 8
Internet Explorer 11	Windows 8.1 and above

# Windows 7™ Security Settings

If Windows 7 is installed on the workstation, **Protected Mode** must be disabled before downloading the software to the workstation.

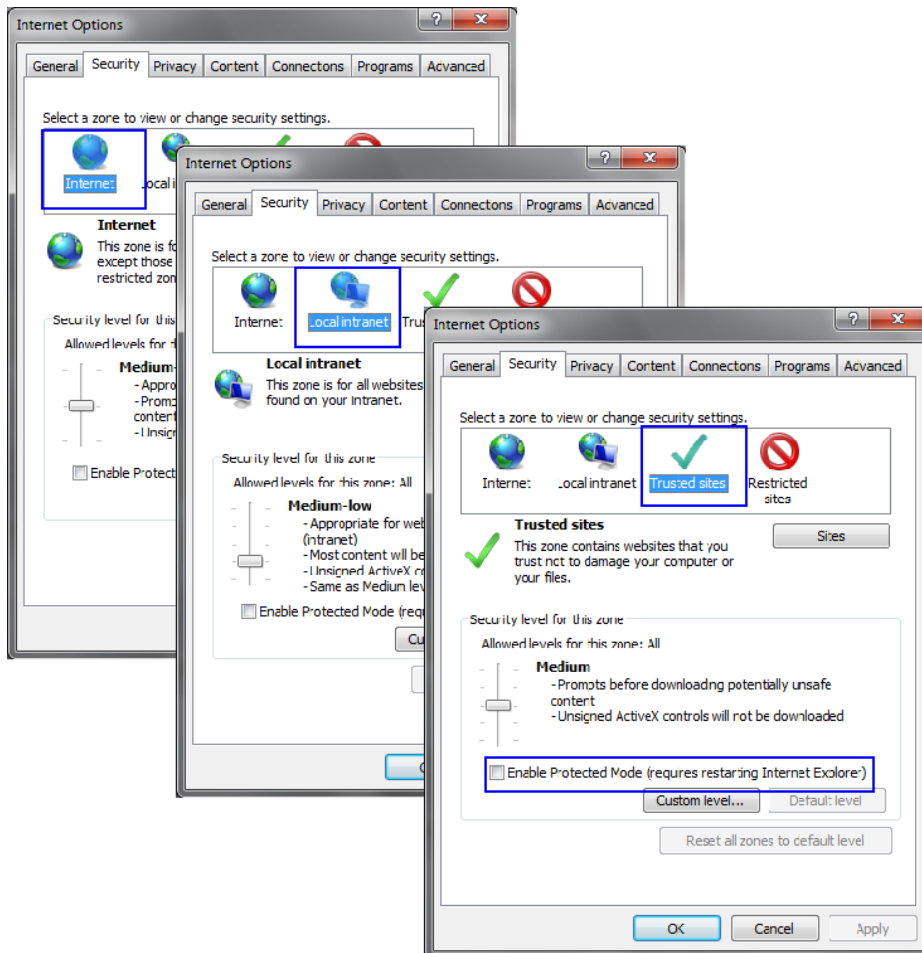
## To disable Protected Mode:

- 1 In the **Internet Options** dialog box, select the **Security** tab.  
The **Security** tab is displayed.



2 Clear the **Enable Protected Mode** check box for each of the following tabs:

- Internet
- Local intranet
- Trusted sites



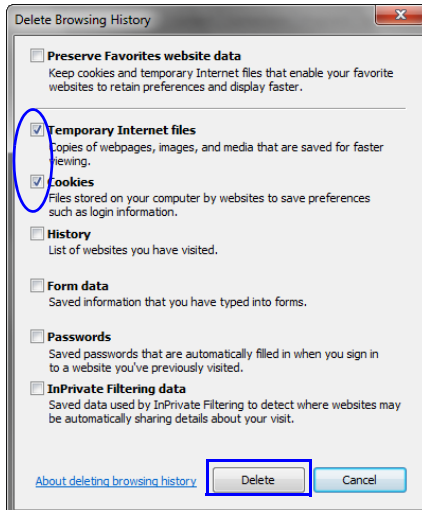
3 After successful connection to Collaboration Server (RMX), the **Enable Protected Mode** check boxes can be selected to enable Protected Mode for the following tabs:

- Internet
- Local intranet



- 5 In the **Browsing history** section, click **Delete**.

The **Delete Browsing History** dialog box is displayed.



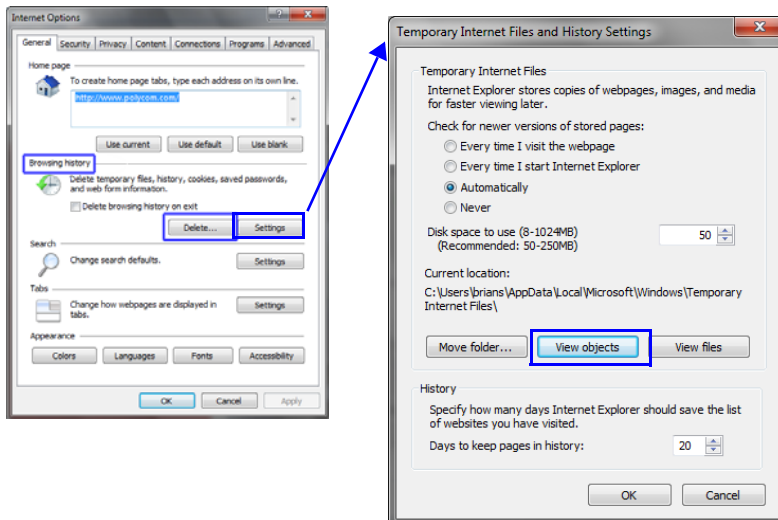
- 6 Select the **Temporary Internet files** and **Cookies** check boxes.

- 7 Click **Delete**.

- 8 The **Delete Browsing History** dialog box closes and the files are deleted.

- 9 In the **Internet Options** dialog box, click **Settings**.

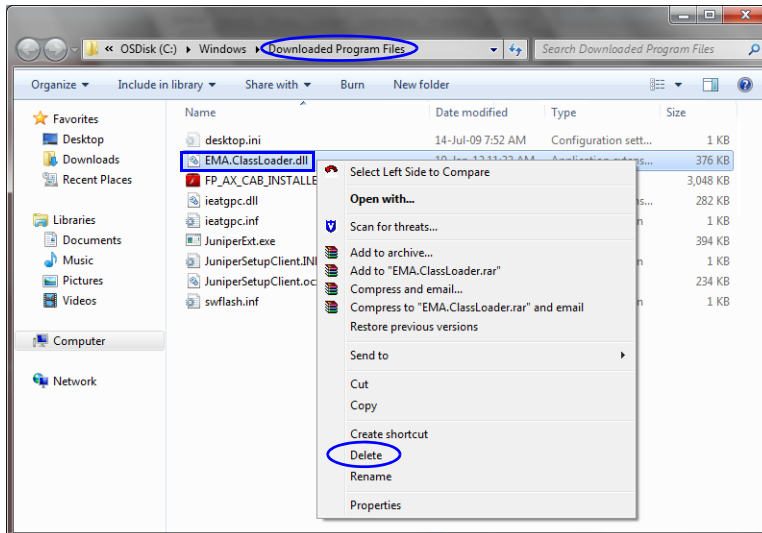
The **Temporary Internet Files and History Settings** dialog box is displayed.





**10 Click View objects.**

The **Downloaded Program Files** folder containing the installed **Program Files** is displayed.

**11 Select the EMAClassLoader.dll file and press the Delete key on the workstation**

or

right-click the **EMA.ClassLoader.dll** file, and click **Delete**.

**12 Close the Downloaded Program Files folder and the Temporary Internet Files and History Settings dialog box.****13 In the Internet Options dialog box, click OK to save the changes and close the dialog box.**

# Version 8.5 - Upgrade Package Contents

---

Version 8.5 upgrade package must be downloaded from the Polycom Resource Center and includes the following items:

- lan.cfg file
- LanConfigUtility.exe
- RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 Documentation:
  - RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 V8.5 Release Notes
  - RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 V8.5 Getting Started Guide
  - RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 V8.5 Administrator's Guide
  - RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 V8.5 Hardware Guide
  - Installation Quick Start Guide for RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 V8.5
  - RMX Open Source Licenses
- External DB Tools
  - RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 External Database API Programmer's Guide
  - Sample Scripts
- RMX XML API Kit Version 8.5
  - RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 XML API V8.5 Release Notes
  - RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 API Overview
  - RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 API Schema Reference Guide
  - MGC to RMX XML API Conferencing Comparison
  - Polycom XML Tracer User's Guide
  - XML Schemas
  - Polycom XML Tracer application
- Translations of RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 Getting Started Guide:
  - French, German, Japanese, Russian, Simplified Chinese, Hebrew and PortugueseHardware Guide:
  - French, German, Japanese, Korean, Russian, Simplified Chinese, Spanish

To view the latest Polycom product documentation, visit the **DOCUMENTS & DOWNLOADS** section of the Polycom website at <http://support.polycom.com>.

# RMX 1500/1800/2000/4000 Software Upgrade Procedures

---



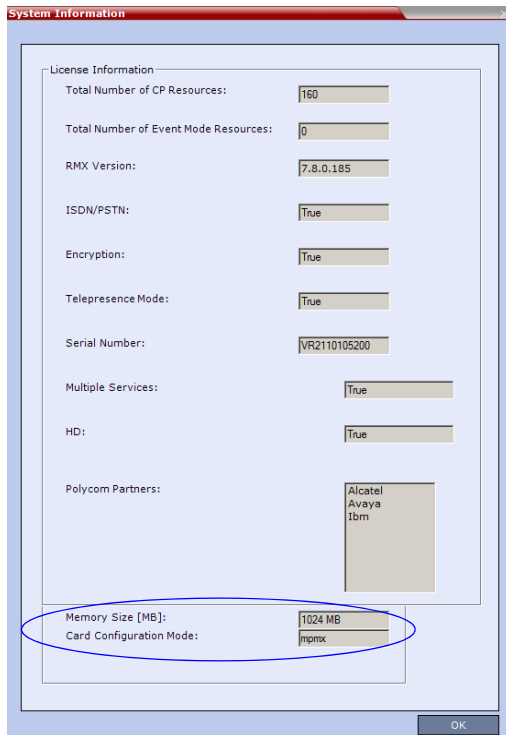
- **Version 8.5 does not support MPM or MPM+ cards. DO NOT** upgrade to Version 8.5 if MPM or MPM+ cards are installed in the RMX and contact Polycom Support.
- If the upgrade process includes upgrading the Media cards, refer to the RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 MPMx Migration Procedure documentation.
- It is essential you use the Backup Configuration function prior to upgrading your MCU. For more information see *RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 Administrator's Guide*, [Software Management](#).
- When upgrading it is recommended that you upgrade from the latest maintenance release of the version you currently have.

## Upgrade Guidelines

- Ensure that the Control Unit memory size is at least 1024MB. If memory size is 512MB, **DO NOT** perform the upgrade procedure. Contact Polycom Support.
- To upgrade to 8.5 with the new MPMRx card, perform the following procedures:
  - 1 Upgrade the MCU to software version 8.5 following the specific upgrade procedures for your current version.
  - 2 If the MCU contains MPM or MPM+ cards, make sure that these cards are disabled.
  - 3 Remove the existing cards from the MCU and insert the MPMRx card.
  - 4 In the Hardware Monitor screen, click the reset button to reset the MCU.

**To check the MCU's memory size:**

- » In the RMX Web Client/RMX Manager go to **Administration > System Information**.



- If Windows7™ is installed on the workstation, **Protected Mode** must be disabled before downloading the RMX software to the workstation. For more information see [Windows 7™ Security Settings](#).
- To maximize conferencing performance, especially in high bit rate call environments, a 1 GB connection is recommended for each LAN connection.
- If the default **POLYCOM** user is defined in the RMX Web Client, an Active Alarm is created and the MCU status changes to **MAJOR** until a new Administrator user replaces the default user.

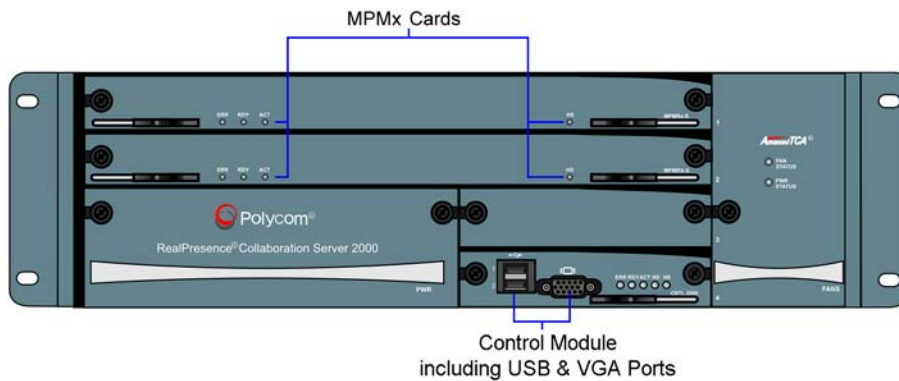
## Collaboration Server (RMX) 2000/4000 Hardware / Software Version Support

The Collaboration Server (RMX) 2000/4000 must used with the correct software version:

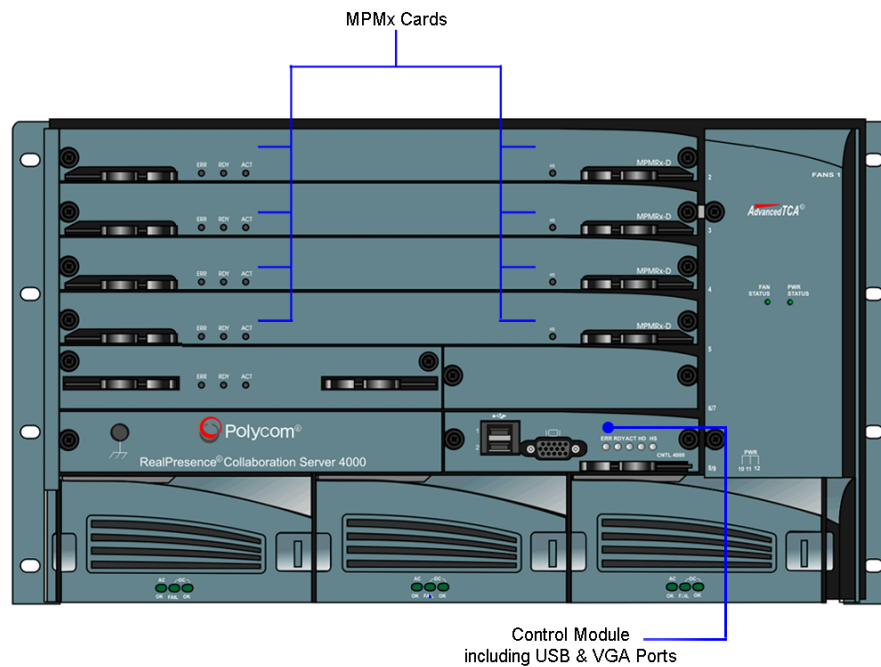
Collaboration Server (RMX) 2000 systems shipped with MPMx media cards and CNTL 2000 Module BRD2534B-L0 and Collaboration Server (RMX) 4000 systems shipped with MPMx media cards and CNTL 4000 Module BRD2535B-L0 **do not support software versions preceding version 8.2.**

Both Control Modules BRD2534B-L0 / BRD2535B-L0 include USB and VGA ports on the front panel.

### RMX 2000 system with CNTL 2000 Module BRD2534B-L0



### RMX 4000 system with CNTL 4000 Module BRD2534B-L0



## Safe Upgrade Paths to Version 8.5

The RMX includes a safety mechanism to ensure that a viable and safe software version installation is selected on an RMX. It ensures that the current RMX software version and the new software installation are matched to an internal logic table, and enables or rejects the software installation. When an incorrect or non-viable version upgrade/downgrade path is attempted, an alarm and fault are activated on the RMX.

The following table lists the software versions that are approved for upgrade by Safe Upgrade process for Version 8.5.

Software Version	RMX 1500X	RMX 1500Q	RMX 1800	RMX 2000 MPM <sub>x</sub>	RMX 4000 MPM <sub>x</sub>
8.4	✓	✓	✓	✓	✓
8.3 (See note below)	✓	✓	✓	✓	✓
8.2 (See note below)	✓	✓		✓	✓
8.1.8 (See note below)	✗	✗	✓	✗	✗
8.1.5 (See note below)	✗	✗	✓	✗	✗
8.1 (See note below)	✓	✓		✓	✓
7.8 (See note below)	✓	✓		✓	✓
7.7	✓	✓		✓	✓
7.6/7.6.1	✓	✓		✓	✓
7.5.0J/7.5.1J	✓	✗		✓	✓
7.2/7.2.x	✓	✓		✓	✓
7.1	✓	✓		✓	✓
7.0.x/7.0.2C	✓	✗		✓	✓
7.0	✗	✗		✗	✗
6.x	✗	✗		✗	✗
5.x	✗	✗		✗	✗
4.7.2	✓	✗		✓	✓

If your RMX version is not listed above, refer to the table below for intermediate and safe upgrade paths to Version 8.5.



**Note: Upgrade from maintenance releases**

When upgrading to version 8.5 from versions 7.8, 8.1, 8.2, and 8.3, it is essential that you upgrade from the following maintenance releases (or later) of the version currently installed:

- 7.8 - RMX\_7.8.0.246.131
- 8.1.7 - RMX\_8.1.7.37.033
- 8.2 - RMX\_8.2.0.85.007
- 8.3 - RMX\_8.3.0.148

If these maintenance releases (or later) are not installed, an upgrade to the latest maintenance release must be performed before upgrading to version 8.5. This is of particular importance for systems with 1024MB of memory.



**Note: Upgrades from earlier versions**

- When upgrading to version 8.5 from version 8.1 it is essential that you upgrade from the latest maintenance release of version 8.1 which is 8.1.7.37.033. If the latest maintenance release of version 8.1 is not installed, an upgrade to latest maintenance release of version 8.1 must be performed before upgrading to version 8.5. This is of particular importance for systems with 1024MB of memory.
- If you are upgrading from V7.0.1 or earlier please refer to the upgrade section of the version's release notes for more information about upgrading to V8.3 / V8.4.
- If your current version is 2.x, 3.x or 4.x, DO NOT upgrade to Version 8.5. Contact Polycom Support for the appropriate upgrade paths.

The following table lists the upgrade paths to Version 8.5.

Current Version	First Intermediate Upgrade		Second Intermediate Upgrade		Third Intermediate Upgrade		New Version	
	Version	Key	Version	Key	Version	Key	Version	Key
8.4	N/A		N/A		N/A		8.5	Yes
8.3	N/A		N/A		N/A		8.5	Yes
8.2	N/A		N/A		N/A		8.5	Yes
8.1	N/A		N/A		N/A		8.5	Yes
7.8	N/A		N/A		N/A		8.5	Yes
7.7	N/A		N/A		N/A		8.5	Yes
7.6/7.6.1	N/A		N/A		N/A		8.5	Yes
7.5.0J/7.5.1J	N/A		N/A		N/A		8.5	Yes
7.2 / 7.2.1 / 7.2.2	N/A		N/A		N/A		8.5	Yes
7.0.1 / 7.0.2 / 7.0.3 / 7.1	N/A		N/A		N/A		8.5	Yes
7.0	7.0.3	No	N/A		N/A		8.5	Yes
6.0.2	7.0.3	Yes	N/A		N/A		8.5	Yes
6.0 / 6.0.1	6.0.2	No	7.0.3	Yes	N/A		8.5	Yes

Current Version	First Intermediate Upgrade		Second Intermediate Upgrade		Third Intermediate Upgrade		New Version	
	Version	Key	Version	Key	Version	Key	Version	Key
5.0.2	7.0.3	Yes	N/A		N/A		8.5	Yes
5.0 / 5.0.1	5.0.2	No	7.0.3	Yes	N/A		8.5	Yes

You can disable the safety upgrade mechanism by changing the default setting of the **ENFORCE\_SAFE\_UPGRADE** system flag to **NO**.

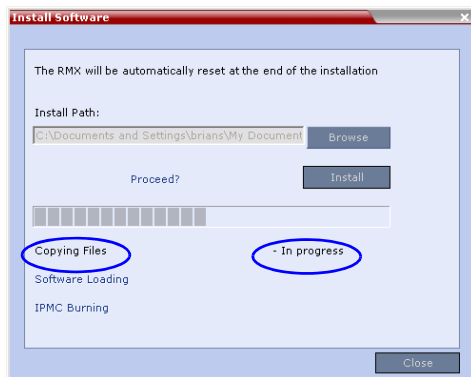
**To prepare for the upgrade:**

- 1 If the Collaboration Server is used with a RealPresence DMA system, disable the RealPresence DMA system functionality:
  - a Log into the DMA that handles call transfers for the Collaboration Server.
  - b Select **Network > MCU > MCUs**.
  - c Select the MCU and choose either **Stop Using** or **Busy Out**.

Verify that all conferences, including permanent conferences, have been terminated.

## Upgrading from Version 8.3 / 8.4 to Version 8.5

- 1 Install *MCU Software Version 8.5*.  
On the RMX menu, click **Administration > Software Management > Software Download**.
- 2 Browse to the Install Path, selecting the **Version 8.5.x.x.bin** file in the folder where Version 8.5 is saved, and click **Install**.
- 3 The **Install Software** information box that the file **Copying files is In progress**.



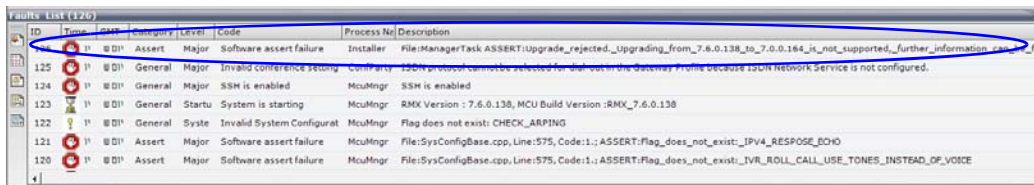




When an incorrect or non viable version upgrade/downgrade is attempted, an alarm and a fault are raised on the RMX.



Click **OK**. The RMX software installation procedure is aborted and a system alert activates in the Faults List:

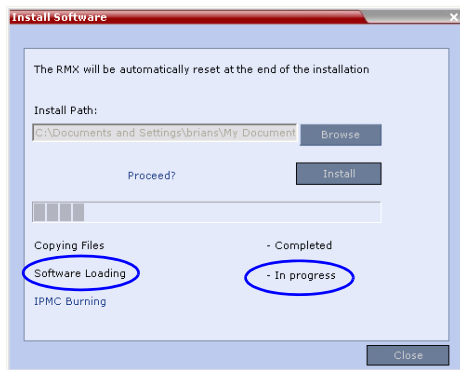


During any upgrade or downgrade software version installation when the Safe Software Version Installation warning has been activated your current browser session will block any new installation attempt. This applies to all software versions, except for version 7.6 which will still enable version downgrades. As a workaround close and then re-open a new browser session, which will enable you to start a new software version installation.

At the end of the Copying Files process the system displays an indication that the software copying procedure is **Done**.

**4** Click **OK**.

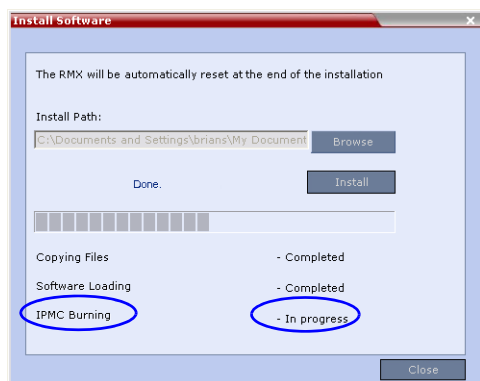
The **Install Software** information box indicates that Software Loading is in progress.



A series of Active Alarms are displayed indicating the progress of the upgrade process.

Active Alarms (6)								
ID	Time	GMT Tim	Category	Level	Code	Process Name	Description	
8	Wed	Wednes	General	System	IPMC software upgrade	Installer	IPMC upgrade 95%	
7	Wed	Wednes	General	System	IPMC software upgrade	Cards	RTM IP IPMC upgrade 84% board Id:5	
6	Wed	Wednes	General	System	IPMC software upgrade	Cards	Media card IPMC software upgrade 80% board Id:2	
3	Wed	Wednes	General	System	Warning: Upgrade start	Installer	Warning: Upgrade started and SAFE Upgrade protection is turned OFF	

The **Install Software** information box indicates that IPMC Burning is in progress.



A further series of Active Alarms are displayed indicating the progress of the upgrade process.

Active Alarms (6)								
ID	Time	GMT Tim	Category	Level	Code	Process Name	Description	
7	Wed	Wednes	General	System	IPMC software upgrade	Cards	RTM IP IPMC upgrade 0% board Id:5	
6	Wed	Wednes	General	System	IPMC software upgrade	Cards	Media card IPMC software upgrade 0% board Id:2	
3	Wed	Wednes	General	System	IPMC software upgrade	Cards	Media card IPMC software upgrade 0% board Id:3	

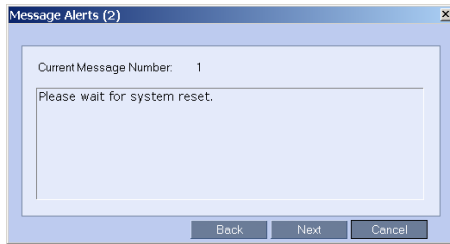
The upgrade procedure takes approximately **20** minutes.



Sometimes, when updating the Version 8.5 license key, the system displays an active alarm shown below. Ignore this Active Alarm and complete this installation procedure.

Active Alarms (1)								
MCU	ID	Time	Category	Level	Code	Process Name	Description	
172.22.185.145	2	11:57:15 2010	General	Major	Insufficient resources	Resource	Insufficient resources	

A system message alert may be displayed, click **Next/Cancel**.



Connection to the RMX is terminated and you are prompted to reopen the browser.



- 5 Approximately 10 minutes after receiving this message, close and reopen the browser.
- 6 Enter the IP address of the RMX Control Unit in the browser's address line and press **Enter** to reconnect to RMX.

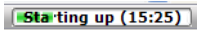
If the browser displays a message indicating that it cannot display the requested page, close and reopen the browser and connect to the RMX.

The version number in the **Welcome** screen has changed to 8.5.

- 7 In the **RMX Web Client – Welcome** screen, enter your **User Name** and **Password**, and click **Login**.



If the error “Browser environment error. Please close all the browser sessions” appears, close all the browser sessions, and reconnect to the RMX. If the error message appears again, either run the automatic troubleshooter utility or manually perform the suggested troubleshooting procedures. For more details, see [Known Limitations](#).

In the Main Screen an MCU State indicator displays a progress indicator  showing the time remaining until the system start-up is complete.

To use the new features such as Operator Assistance and Gateway Sessions the IVR Services must be updated. For more details, see [Additional/Optional System Considerations After Upgrade](#).

- 8 If the Collaboration Server (RMX) is used with a RealPresence DMA system, enable the RealPresence DMA system functionality:
- 9 Log into the RealPresence DMA system that handles call transfers for the Collaboration Server (RMX).
- 10 Select **Network > MCU > MCUs**.
- 11 Select the MCU and choose **Start Using**.
- 12 Verify that the version number is updated signifying that the upgrade is complete.

## Additional/Optional System Considerations After Upgrade

Upgrading the system can result in changes to default configurations system behaviors:

- **Permanent Conferences** must be manually re-scheduled.
- **IVR Services** should be checked after upgrading from earlier versions (V4.0 / V6.0 / V7.x / V7.6.1) to ensure that changed or additional DTMF codes do not conflict with previously defined DTMF codes.
- **Enable Gathering** check box in the **Profile Properties > Gathering Settings** tab is not selected by default for pre-existing Profiles.
- **SIP Proxy Registration** is configured the **Conference Profile > Network Services** dialog beginning with version 7.1.
- **Media Encryption** is enabled by a Conference Profile setting from version V7.6.1, replacing the **ALLOW\_NON\_ENCRYPT\_PARTY\_IN\_ENCRYPT\_CONF** System Flag. Modified the profile to meet your environment's encryption requirements.
- **Automatic Muting of Noisy AVC-based Endpoints** is not automatically enabled in existing Profiles and has to be manually enabled, if required. In new Profiles that are created after the upgrade, auto mute of noisy endpoints option is enabled by default.
- **RealPresence DMA** in the environment requires that the value of the flag **MAX\_CONF\_PASSWORD\_REPEATED\_CHAR** System Flag value be set to **4** system for compatibility from version 7.7.
- **RMX Manager** for the specific version installed should be downloaded and installed. For more information see [RMX Manager Application](#) in the *RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 Administrator Guide*.

For more information refer to the *Release Notes* detailing upgrades from the specific versions.

# Version 8.5 Detailed Description - New Features

---

## New Admin User for Polycom Services

A new default user with administrator authorization is now provided by all MCU types to be used with Polycom products, having the following details:

- **User name** - SA\_PLCM\_Integration
- **Password** - Polycom\_CS

This user is not considered a new user. Therefore, when upgrading the MCU from a previous version to version 8.5, no `New SA_PLCM_Integration user` message should be generated.

Since this user is provided in secure mode (JITC) as well, an active alarm is displayed upon login, indicating the existence of an SA+PLCM\_Integration default user, and recommending replacing it with an alternate one for security reasons.

This user should be recognized by the DMA/XMA as well, thus enable their logging into the MCU without any undue messages, with the exception of the active alarm stated above upon logging into a secure machine.

## Media Traffic Shaping



Traffic shaping is applicable for all RealPresence Collaboration Server types.

Polycom integrated traffic shaping capabilities into the RealPresence Collaboration Server to enable deploying Collaboration Server systems in networks limiting packet bursts within 100ms time intervals (or more). Setting router policies to limiting of bandwidth within a time interval, causes the router to drop packets exceeding the allowed bandwidth within this interval. Therefore, using this feature enables the Collaboration Server to flatten the traffic, and minimize traffic bursts, without exceeding the bandwidth allowed within the time interval.

Though the Collaboration Server supports high level network features, high quality of service requires end-to-end video network operation. The Collaboration Server traffic shaping capabilities cannot compensate for network level violations/limitations generated by elements outside the Collaboration Server, such as endpoints, routers, etc.

Traffic shaping can flatten a momentary burst (meaning, within a 100ms time interval). However, it cannot “flatten” longer bursts resulting from endpoints sharing content in video switching conferences. Similarly, this feature helps reducing packets dropping by routers following momentary traffic bursts, yet it does not resolve packet lost by faulty network connections or network congestion.

Note that during VSW content sessions, should source endpoint exceed the negotiated content rate for over 100ms, the Collaboration Server can flatten the video channel but not the incoming content channel.

## Traffic Shaping Guidelines

- Traffic shaping is applied in the following conferencing modes and scenarios:
  - AVC conferences (both CP and VSW)
  - Mixed CP and SVC conferences - applied only on AVC endpoints
  - Content VSW

This feature is **not** applied on TIP endpoints.

- Capacity of CIF/SD resolutions on MPMx cards is reduced when traffic shaping is on: CIF capacity is reduced from 90 to 70 (20% reduction), and SD capacity is reduced from 60 to 50, in terms of ports. Capacity of mixed AVC/SVC calls is also reduced when traffic shaping is enabled. Capacities of 720p and up are unaffected.
- License entitlement ratio for SD and CIF is reduced from 1:2 to 1:1.5 on Collaboration Servers with MPMRx media card(s); license entitlement ratio for SD is reduced from 1:2 to 5:3, and for CIF - from 1:2 to 7:3 on Collaboration Servers with MPMx media card(s).
- Traffic shaping code is embedded in the DSP ART modules thus requiring enlarging PCI memory size to 18Mbps, and content memory size to that of video.
- In MPMx MCUs, if all DSP units are defined as ART, each MPMx-D card can allocate 360 audio-only ports. Yet, if all DSP units are set to full video (meaning, no voice), a CIF port is allocated for audio only, resulting in audio capacity reduction similar to that of CIF capacity reduction (see [Maximum Capacity in MPMx and MPMRx MCUs](#)).
- Should license port capacity be lower than the number of hardware ports, the unlicensed ports are used for traffic shaping to decrease capacity reduction.
- Traffic shaping is applied on the aggregation of both content and people channels.
- Delays due to traffic shaping, if any, are limited to 10ms.
- This feature is not applied on audio, since the encoder output audio rate is constant.
- When LPR is enabled, traffic shaping is applied following packets repair and prior to packets sending.

## System Flags

Traffic shaping usage is controlled by Collaboration Server configuration system flags (for the entire bridge):

- **ENABLE\_RTP\_TRAFFIC\_SHAPING** - Enables traffic shaping. When set to **YES**, traffic shaping is applied to all ports, resulting in some port capacity reduction in MCUs with MPMx/MPMRx cards (see [Maximum Capacity in MPMx and MPMRx MCUs](#)). When set to **NO**, traffic shaping is disabled.

Values:

- **YES** - Traffic shaping is enabled.
- **NO** - Traffic shaping is disabled.

Default value: **NO**

- **VIDEO\_BIT\_RATE\_REDUCTION\_PERCENT** - Indicates the percentage of actual reduction in bit rate sent from the MCU to the endpoint (negotiated bit rate is not reduced). This flag is applicable only when traffic shaping is enabled (**ENABLE\_RTP\_TRAFFIC\_SHAPING** set to **YES**).

Range: **0-60**; Default value: **15**

- **TRAFFIC\_SHAPING\_MTU\_FACTOR** - Used for the MTU (Maximum transmitting Unit - the size of transmitted packets) dynamic calculation:

$$\text{New MTU} = \text{video bit rate} / \text{TRAFFIC\_SHAPING\_MTU\_FACTOR}$$

where the new MTU value is guaranteed to be a minimum of 410, and a maximum of 1460 (MAX\_MTU). The purpose of this calculation is to match video rate in outgoing video to call rate, yet force lower encoder bit rates to avoid overflow.

This flag is applicable only when traffic shaping is enabled.

Range: **0-5000**, where **0** signifies no change in MTU; Default value: **800**

To modify any of these flags, manually add them into the MCMS user parameters section of the system configuration flags, and then modify their value (see ).

## Capacity During Traffic Shaping

The table below describes the maximum capacity after reduction due to traffic shaping in Collaboration Servers 1500/2000/4000. There is no capacity reduction in Collaboration Servers 1800 and Virtual Edition.

### Maximum Capacity in MPMx and MPMRx MCUs

Resolution	MPMx		MPMRx	
	Non-mixed Mode	Mixed Mode	Non-mixed Mode	Mixed Mode
CIF	70	40	150 *	100 *
SD	50	40	150 *	100 *
HD720p	30	20	100	66
HD1080p	15	10	50	40
Audio Only	70/360	40/360	300	150

\* Assuming conference bit rate ≤ 1024 Kbps

## ISDN/PSTN Support in RMX 1800



This feature is applicable only for RealPresence Collaboration Server 1800-3 ISDN, meaning three DSP cards configuration, with built-in ISDN.

Before version 8.5, Polycom RealPresence Collaboration Server 1800 did not support ISDN/PSTN-related features.

From version 8.5 and on, ISDN/PSTN support was added to Collaboration Server 1800-3 ISDN.

To configure the Collaboration Server to work with ISDN/PSTN networks, see [Defining ISDN/PSTN Network Services](#) in the *RealPresence Collaboration Server Administrator Guide*.

## Supported Features and Limitations

- ISDN video - AVC-CP Only conferences, no VSW in endpoints.
- PSTN audio - AVC-CP and mixed conferences.
- Similarly to Collaboration Servers 1500/2000/4000, channel bonding (i.e. combining channels into a single wide bandwidth channel, with one byte used for capabilities declaration) is supported. Channel aggregation is not used.
- E1 and T1 cannot be used simultaneously.
- Only simple audio negotiation is supported with no auto-negotiation of bit rate.
- The set of supported resolutions and protocols is identical to that of the IP.
- H.239 is used for sharing content.
- Lecture mode, operator conferences, DTMF codes, address book, and scheduling (pre-configuring into scheduled conferences participant list).
- Secured conferencing is supported, though no ISDN cascading is possible in such a mode.
- Cascading is supported only in a basic two-MCU topology, with an ISDN cascaded link, where DTMF codes forwarding is suppressed. No star or multi-hierarchy cascading is supported (see [Possible Cascading Topologies](#) in the *RealPresence Collaboration Server Administrator Guide*).
- Primary and secondary clocks are automatically selected by the system, and cannot be configured to match a certain source.
- Only two ISDN/PSTN network services are supported.
- The interface management is similar to ISDN management in Collaboration Server 1500 with MPMx cards.
- ISDN gateway - The MCU can relay an ISDN call to an IP endpoint for a one-on-one ISDN-IP call by using a special conferencing profile.
- Up to two ISDN participants can access a meeting room directly using a dedicated number, provided they belong to the same network service.

Accessing a meeting room via an entry queue is disabled by default, and requires a dial-in dedicated number to enable it, where each entry queue is limited to two ISDN numbers. However, these ISDN numbers are not required to belong to the same ISDN/PSTN network service.

## Non-supported Features

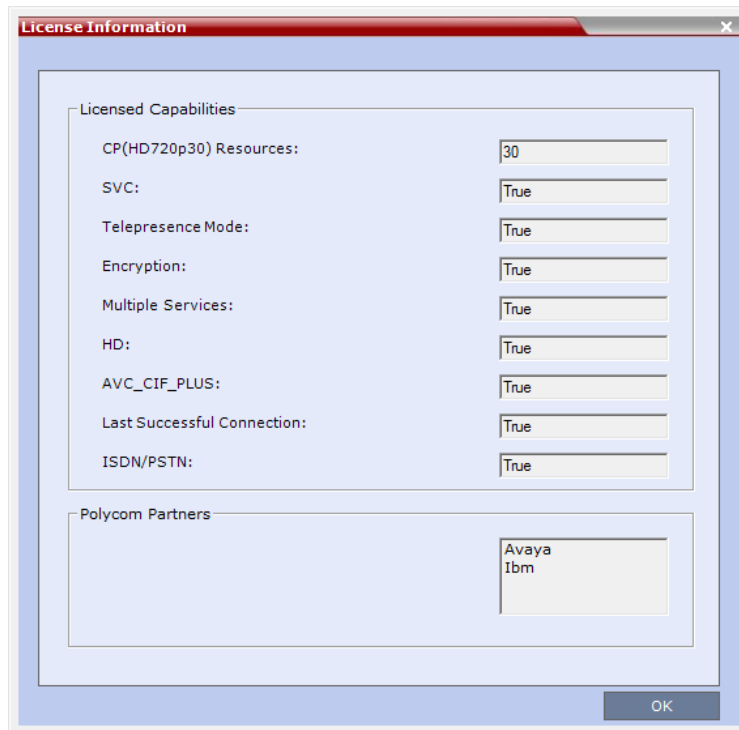
- Non-facility associated signaling (NFAS)
- Personal conference manager (PCM)
- Media redundance
- Leased line usage - Point-to-point connection via V.35 RAD gateway (and not via an exchange).
- Restricted channel mode
- V.35 serial standards
- LPR
- Auto-detection of audio only endpoints
- Modifying capability by remote endpoint during an ongoing conference
- Audio algorithms G.729, G.728, and G.723.1
- Far end camera control (FECC)



- H.243 chairperson control
- T.120 data sharing protocol
- H.261 Annex D

## Changes in User Interface

An indication for ISDN/PSTN licensing is added.



## ISDN/PSTN Tables for Collaboration Server 1800

The following table lists the ISDN supported bit rates and their respective participant connection capacities per Collaboration Server 1800-3 System:

### ISDN – E1/T1 Connection Capacity vs. Bit rate

Bit Rates (Kbps) (Bonded)	Number of Participants per System		Type
	E1	T1	
64	120	92	PSTN/Voice

**ISDN – E1/T1 Connection Capacity vs. Bit rate**

Bit Rates (Kbps) (Bonded)	Number of Participants per System		Type
	E1	T1	
128	60	44	Video
192	40	28	
256	28	20	
384	20	12	
512	12	8	
768	8	4	

The following table lists the audio algorithms supported for ISDN on Collaboration Server 1800-3:

**ISDN/PSTN - Supported Audio Algorithm vs Bitrate**

Audio Algorithm	Min Bitrate (Kbps)
G.722.1C 48K	256
G.722.1C 32K	
G.722.1C 24K	
Siren14 48K	
Siren14 32K	
Siren14 24K	
G.722.1 32K	
G.722.1 24K	
G.722.1 16K	
G.722 64K	
G.711 64K	

**ISDN/PSTN - Supported Audio Algorithm vs Bitrate**

Audio Algorithm	Min Bitrate (Kbps)
G.722.1C 32K	128
G.722.1C 24K	
Siren14 32K	
Siren14 24K	
G.722.1 32K	
G.722.1 24K	
G.722 64K	
G.711 64K	
G.722.1 16K	96
G.722.1C 24K	
Siren14 24K	
G.722 64K	
G.711 64K	
G.711 64K	

## Siren 7 Codec Support for SIP Calls



Siren7 audio codec support for SIP calls is applicable for all RealPresence Collaboration Servers.

When a Lync server is configured to allow 33Kbps audio rate, Lync clients connecting the MCU, and using audio rates smaller than 42Kbps, fail, thus disconnecting the call.

To prevent that, from version 8.5 and on, Siren7 audio codec is supported by the MCU, and is the preferred codec for SIP/Lync calls.

### System Flag

The Siren7 audio codec support depends on the **ALLOW\_SIREN7\_CODEC** System Flag:

- When set to **YES** - Siren7 audio codec becomes the preferred audio codec for SIP/Lync calls.
- When set to **NO** - Siren7 audio codec is not supported.

Default value: **NO**

To modify this flag value, manually add it into the MCMS user parameters section of the system configuration flags, and then modify its value (see ).

No system reset is required to make the change effective.

## VSW on RealPresence Collaboration Server 1800

From version 8.5 and on, it is possible to use Video Switching (VSW) conferencing mode on the RealPresence Collaboration Server 1800, in a similar manner to that used on the other Collaboration Servers.

### Capacity

Below, are the capacity numbers per the various VSW conference line rates.

#### Capacity per Line Rate on Collaboration Server 1800

Line Rate (bps)	Capacity
2M	200
4M	150
6M	100

# Version 8.5 - Detailed Description of Changes to Existing Features

## Supporting 1080p Video Resolution in SVC Conferences



This feature is applicable for Collaboration Server 2000/4000 with MPMRx media cards, Collaboration Servers 1800, and Virtual Edition.

Up until version 8.5, in Polycom RealPresence Collaboration Server, SVC-enabled (meaning, **SVC Only** and **Mixed CP and SVC**) conferences supported resolutions of up to 720p. From version 8.5, SVC-enabled conferences support 1080p resolution as well, and allow using 4Mb as conference bit rate.

To enable this, an additional simulcast layer is added for 1080p resolution support in SVC endpoints, which obsoletes the ENABLE\_1080\_SVC system flag.



- 720p-capable endpoints can receive 720p resolution video only from 1080p-capable endpoints. Video from lower capability endpoints is limited to 360p resolution video.
- AVC endpoint functionality is unaffected.

## Operation Points

The table below describes the operation points in SVC-enabled conferences supporting 1080p resolution.

### SVC 1080p Operation Points

Conference Line Rate	Simulcast Stream-1	Simulcast Stream-2	Simulcast Stream-3	Audio
$2M \leq \text{conf. rate} \leq 4M$ (360 alternative)	Resolution:180p30 Bit rate: 192 kbps Profile: Base	Resolution:360p30 Bit rate: 384 kbps Profile: High	Resolution:1080p30 Bit rate: 1232 kbps Profile: High	48kpps
$1472 \leq \text{conf. rate} < 2M$	Resolution:180p30 Bit rate: 192 kbps Profile: Base	Resolution:360p30 Bit rate: 384 kbps Profile: High	Resolution:720p30 Bit rate: 768 kbps Profile: High	48kpps
$1152 \leq \text{conf. rate} < 1472$	Resolution:180p30 Bit rate: 192 kbps Profile: Base	Resolution:360p30 Bit rate: 384 kbps Profile: High	Resolution: 720p15 Bit rate: 512 kbps Profile: High	48kpps

**SVC 1080p Operation Points**

Conference Line Rate	Simulcast Stream-1	Simulcast Stream-2	Simulcast Stream-3	Audio
$1M \leq \text{conf. rate} < 1152$	Resolution:180p30 Bit rate: 192 kbps Profile: Base	Resolution:360p15 Bit rate: 256 kbps Profile: High	Resolution:720p15 Bit rate: 512 kbps Profile: High	48kpps
$768 \leq \text{conf. rate} < 1M$	Resolution:180p30 Bit rate: 96 kbps Profile: Base	Resolution:360p30 Bit rate: 192 kbps Profile: High	Resolution:720p15 Bit rate: 432 kbps Profile: High	48kpps
$512 \leq \text{conf. rate} < 768$	Resolution:180p30 Bit rate: 96 kbps Profile: Base	Resolution:360p30 Bit rate: 192 kbps Profile: High		48kpps
$256 \leq \text{conf. rate} < 512$	Resolution:180p15 Bit rate: 64 kbps Profile: Base	Resolution:360p15 Bit rate: 128 kbps Profile: High		48kpps
$192 \leq \text{conf. rate} < 256$	Resolution:180p30 Bit rate: 96 kbps Profile: Base			48kpps
$128 \leq \text{conf. rate} < 192$	Resolution:180p15 Bit rate: 64 kbps Profile: Base			48kpps

**SVC endpoint transmission/reception resolutions**

Transmission	Reception			
	1080p Endpoint	720 Endpoint	360 Endpoint	Mobile Endpoint
<b>1080p Endpoint</b>	1080p	360p	360p	180p
<b>720 Endpoint</b>	720p	360p	360p	180p
<b>360 Endpoint</b>	360p	360p	360p	180
<b>Mobile Endpoint</b>	270p	270p	270p	135p

When observing the values in the table above, you can see that though endpoints send video using their own resolution, they can receive video only using one of the existing multicast streams.

## Endpoint Experience

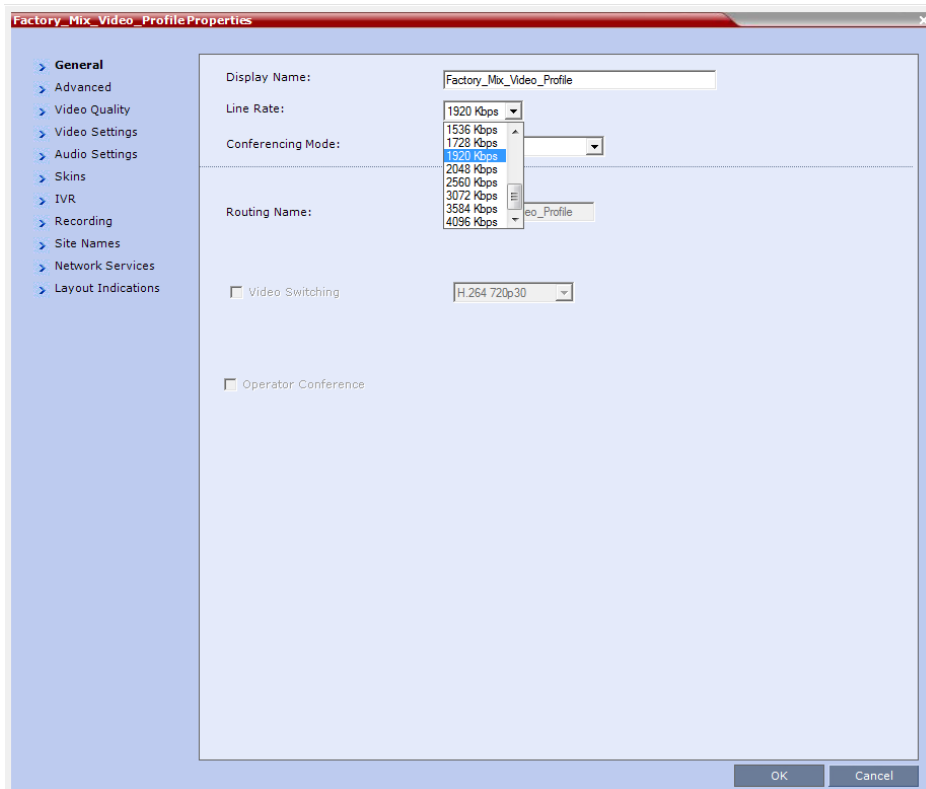
### Image Resolution per Layout and Conference Line Rate

Layout	720p Endpoint		1080p Endpoint	
	Line rate ≤ 1920	Line rate > 2048	Line rate ≤ 2048	Line rate > 2048
1x1	360p	360p	1080p / 720p *	1080p
1x2	360p each	360p each	360p each	360p each
2x2	360p each	360p each	360p each	360p each
1+Z	<ul style="list-style-type: none"> <li>• 1 - 360p</li> <li>• Z - 180p each</li> </ul>	<ul style="list-style-type: none"> <li>• 1 - 360p</li> <li>• Z - 180p each</li> </ul>	<ul style="list-style-type: none"> <li>• 1 - 360p</li> <li>• Z - 180p each</li> </ul>	<ul style="list-style-type: none"> <li>• 1 - 360p</li> <li>• Z - 180p each</li> </ul>

\* Depending on image source

## User Interface Aspects

The conference **Line Rate** pull-down list contains values up to 4M (4096 Kbps).



## 1080p Content in SVC Mode and Legacy Content in Mixed Mode



This feature is applicable for Collaboration Servers 1500/1800/2000/4000, and Virtual Edition.

Up until version 8.5, in Polycom RealPresence Collaboration Server, SVC-enabled (meaning, **SVC Only** and **Mixed CP and SVC**) conferences content parameters were limited to:

- Settings - Graphics
- Resolution / frame rate - HD720p5fps
- Profile - Base
- Bit rate - 128 Kbps

From version 8.5 and on, SVC-enabled conferences may use content parameters similar to those supported by the MCU for AVC only conferences, meaning:

- Content settings - Graphics, HiRes-Graphics, LiveVideo, Customized Content Rate.
- Content protocols - H.263, H.264
- Profiles - H.264 base and high profiles
- Resolution / frame rate- Up to 1080p60 fps
- Conference rate - Up to 4M (4096 Kbps)

In addition, instead of using fixed rates, the Highest Common principle is applied to protocol, profile, content rate, and resolution. This allows higher capability endpoints to enjoy better experience.

The remaining limitations are:

- **MPM Media card** - Collaboration Servers 1500/2000/4000 with MPMx media cards support only base profile, and content rates up to 1080p15 fps.
- **Soft MCU** - Though now supporting H.264 high profile, the Collaboration Server Virtual Edition supports content resolutions of up to 1080p15 fps.
- **Transcoding** - Content transcoding is performed on streams of up to 1080p15 fps.
- **TIP** - In TIP compatible conferences (**Prefer TIP** or **Video and Content**), content parameters are inherited from TIP content definitions. Since currently, TIP content is not supported in SVC-enabled conferences, the upgrade in content parameters cannot be observed.
- **RPD/RPM** - These endpoints support content limited to 720p5fps at 128 Kbps. Therefore, should the conference content setting be higher than these, the applying of the Highest Common principle, might result in downgrading of content sharing parameters.

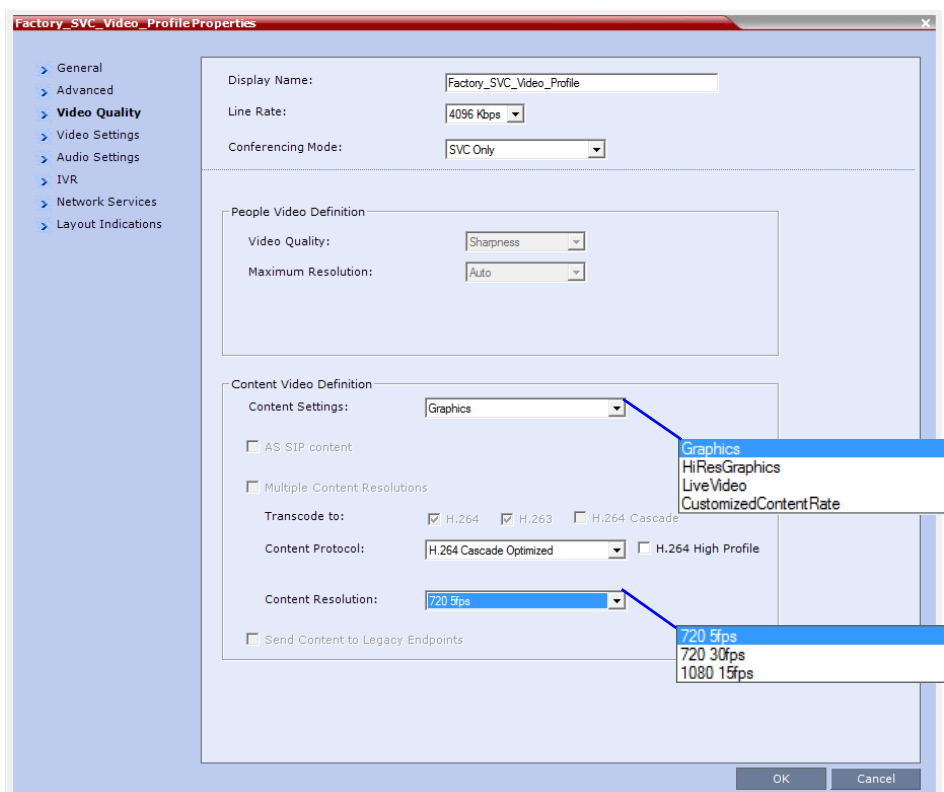
Additionally, the option to send content to Legacy content endpoints is now enabled in Mixed AVC and SVC conferences. However, content can be sent only to AVC Legacy endpoints, since it utilizes the people



channel for the content, and in SVC conferences, this channel uses a technology which does not support content viewing.

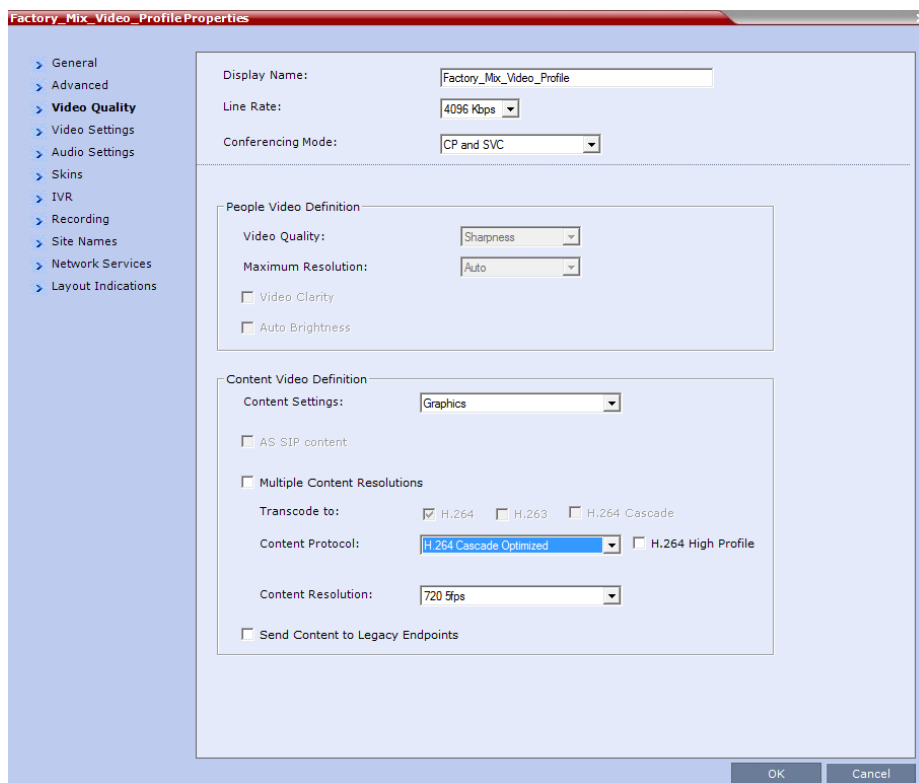
## User Interface Aspects

- The option **H.264 Cascade and SVC Optimized** is now replaced with **H.264 Cascade Optimized**, since sharing content in SVC conferences is not limited to fixed rates from version 8.5.

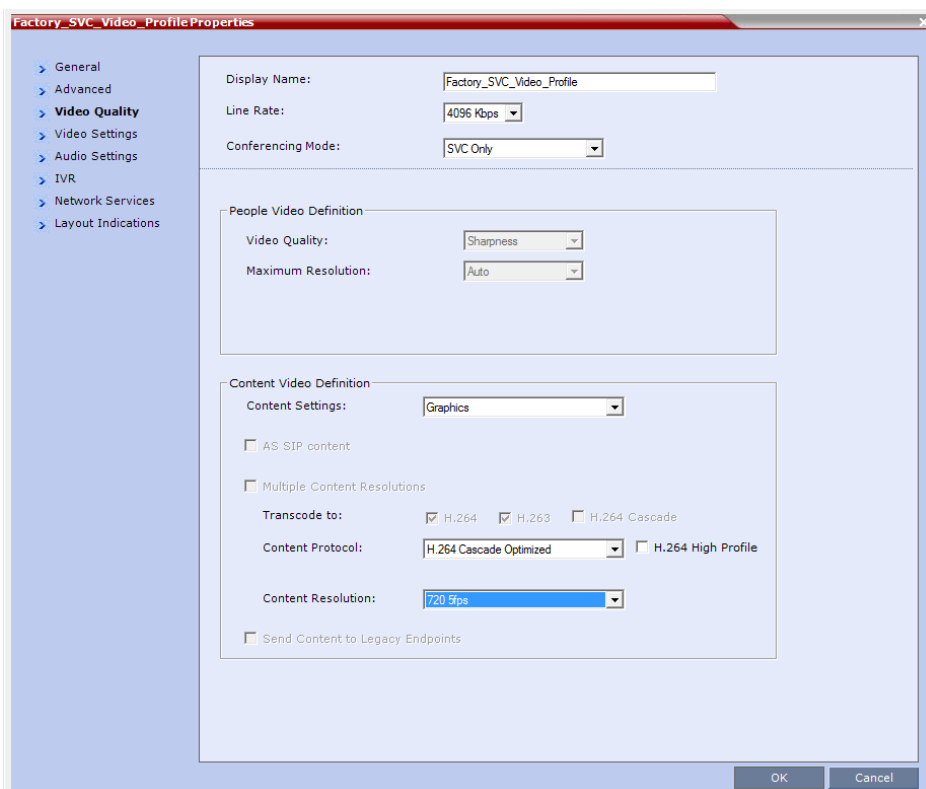


- All settings may be selected (before v8.5 - only **Graphics**)
- Content resolutions pull-down list includes 1080p30 and 1080p60 supposing conference rate is 4M, unless either **Multiple Content Resolutions** is selected, or in MCUs with MPMx media cards.

- In **Mixed CP and SVC** conferences:
  - **Multiple Content Resolutions** may be selected, though it is limited to 1080p15 resolution, as opposed to being limited to VSW content.
  - All **Content Protocol** usage modes can be selected, as opposed to being limited to **H.264 Cascade Optimized**.
  - **Send Content to Legacy Endpoints** can be selected (thus is enabled).



- In **SVC Only** conferences:
  - **Multiple Content Resolutions** cannot be selected, allowing VSW content only (no transcoding).
  - Both **H.264 HD** and **H.264 Cascade Optimized** may be selected, as opposed to being limited to **H.264 Cascade Optimized**.
  - **Send Content to Legacy Endpoints** cannot be selected (thus is disabled).



## Performance Tables



- High profile is not applicable for Collaboration Servers 1500/2000/4000 with MPMx media cards.
- High profile in Collaboration Server Virtual Edition is limited to 1080p15 resolution.

### Negotiation Rates for Base and High Profiles

The tables below describe the resolution as negotiated by the MCU according to the content rate, for base and high profiles.

#### Maximum Negotiated Resolution and Frame Rate per Content Rate for H.264 Base Profile

Bit Rate Allocated to Content Channel (Kbps)	Maximum Negotiated Content	
	Resolution	Frames/Second
64-512	H.264 HD720	5
512-768	H.264 HD720	30
768-1536	H.264 HD1080	15
1536-3072 *	H.264 HD1080	30
3072-4096 *	H.264 HD1080	60

\* These line rates apply **only** to MCUs with MPMRx media cards, and Collaboration Server 1800.

#### Maximum Negotiated Resolution and Frame Rate per Content Rate for H.264 High Profile

Bit Rate Allocated to Content Channel (Kbps)	Maximum Negotiated Content	
	Resolution	Frames/Second
64-384	H.264 HD720	5
384-512	H.264 HD720	30
512-768	H.264 HD1080	15
768-2048	H.264 HD1080	30
2048-4096	H.264 HD1080	60

## Highest Common

The tables below summarize the Highest Common, base and high profiles maximum content rates as negotiated by the MCU in single MCU (non-cascading) conferences. Newly introduced content rates are colored in Gold.

### Highest Common Content Bit Rate for H.264 Base Profile

Content Settings / Resolution	64	128	256			768		1152				1920		3072		6144 *
	96	192	320	384	512	832	1024	1280	1472	1536	1728	2048	2560	3584	4096	
<b>Graphics 33%</b>																
≤ 1080p15		64	64	128	128	256	256	384	384	512	512	512	768	768	1280	1280
≤ 1080p30 **																2048
<b>Hi-res Graphics 50%</b>																
≤ 1080p15		64	128	192	256	384	512	512	512	768	768	1024	1280	1536	1536	1536
≤ 1080p30 **															2048	2048
≤ 1080p60 **																3072
<b>Live Video 66%</b>																
≤ 1080p15, AVC only		64	128	256	384	512	512	768	768	1024	1024	1280	1536	1536		1536
≤ 1080p15, SVC / Mixed								512		768						N/A
≤ 1080p30 **								768		1024				2048	2560	2048
≤ 1080p60 **																4096

\* This line rate is applicable only for RealPresence Collaboration Server 1500/1800/2000/4000, non SVC-enabled conferences.

\*\* These resolutions are applicable only for Collaboration Server 1500/2000/4000 with MPMRx media cards, and Collaboration Server 1800.

**Highest Common Content Bit Rate for H.264 High Profile**

Content Settings / Resolution	64	128	256	384	512	768	1024	1152	1472	1536	1728	1920	2560	3072	4096	6144 *
	96	192	320			832		1280				2048		3584		
<b>Graphics 33%</b>																
≤ 1080p15		64	64	128	128	256	256	384	384	512	512	512	768	768	1280	1280
≤ 1080p30																2048
≤ 1080p60																
<b>Hi-res Graphics 50%</b>																
≤ 1080p15		64	128	192	256	384	512	512	512	768	768	1024	1280	1280		
≤ 1080p30														1536	2048	2048
≤ 1080p60																3072
<b>Live Video 66%</b>																
≤ 1080p15		64	128	256	384	512	512	768	768	1024	1024	1280	1280			1280
≤ 1080p15, SVC-enabled					256			512		768						N/A
≤ 1080p30					384			768		1024			1536	2048	2048	2048
≤ 1080p60															2560	4096

\* This line rate is applicable only for RealPresence Collaboration Server 1500/1800/2000/4000, non SVC-enabled conferences.

## Fixed Rates

The tables below summarize the base and high profiles content rates as they are determined by the MCU in cascading conferences. The values in these tables are the same as in the H.264 Cascade and SVC Optimized from version 8.4, only the SVC is not included, since it now uses the Highest Common principle instead of fixed rates.

### H.264 Cascade Optimized Content Bit Rate for H.264 Base Profile

Cascade Resolution	64	128	256	384	512	768	832	1152	1280	1472	1920	2048	3072	3584	4096	6144 *
	96	192	320				1024			1536		1728				
<b>Graphics 33%</b>																
720p5		64	64	128	128	256	256	256	256	256	256	512	512	512	512	512
720p30										512	512	512	512	512	512	768
1080p15										768	768	768	1152	1152	1152	
1080p30 **																2048
1080p60 **	N/A															
<b>Hi-res Graphics 50%</b>																
720p5		64	128	192	256	384	384	384	512	512	512	512	512	512	512	512
720p30								512	512	512	512	768	768	768	768	768
1080p15								768	768	768	768	768	1152	1152	1152	
1080p30 **														2048	3072	
1080p60 **														3072		
<b>Live Video 66%</b>																
720p5		64	128	256	384	512	512	768	768	768	768	768	768	768	768	768
720p30							512	768	768	768	768	768	768	768	768	768
1080p15							768	768	768	768	1152	1152	1152	1152	1152	
1080p30 **													2048	2048	2560	3072
1080p60 **																4096

\* This line rate is applicable only for RealPresence Collaboration Servers 1500/1800/2000/4000, non SVC-enabled conferences.

\*\* These resolutions are applicable only for Collaboration Servers 1500/2000/4000 with MPMRx media cards, and Collaboration Server 1800.

**H.264 Cascade Optimized Content Bit Rate for H.264 High Profile**

Cascade Resolution	64	128	256	384	512	768	832	1024	1152	1536	1728	1920	2048	2560	4096	6144 *
	96	192	320						1280					3072		
									1472					3584		
<b>Graphics 33%</b>																
720p5		64	64	128	128	256	256	256	384	384	512	512	512	512	512	512
720p30									512					768	768	768
1080p15														768	1280	1280
1080p30 **														768	1280	2048
1080p60 **																2048
<b>Hi-res Graphics 50%</b>																
720p5		64	128	192	256	384	384	384	512	512	512	512	512	512	512	512
720p30						384	384	512	512	512	768	768	768	768	768	768
1080p15								512	512	768	768	768	768	1280	1280	1280
1080p30 **										768	768	768	1024	1024	2048	2048
1080p60 **															2048	3072
<b>Live Video 66%</b>																
720p5		64	128	256	256	384	512	512	512	512	512	512	512	512	512	512
720p30						512	512	512	768	768	768	768	768	768	768	768
1080p15						512	512	512	768	768	768	1280	1280	1280	1280	1280
1080p30 **									768	1024	1024	1280	1280	1280	2048	2048
1080p60 **															2560	4096

\* This line rate is applicable only for RealPresence Collaboration Servers 1500/1800/2000/4000, non SVC-enabled conferences.

\*\* These resolutions are applicable only for Collaboration Servers 1500/2000/4000 with MPMRx media cards, and Collaboration Server 1800.



## Lync 2013 Improvements

### HD1080p Resolution Support

The Collaboration Server Hosted deployment supports HD1080p30 video resolution symmetrically for direct calls.

The MS AV MCU Cascade deployment supports HD1080p30 video resolution only if [Video Optimized](#) mode is selected and according to the settings of the **LYNC\_AVMCU\_1080p30\_ENCODE\_RESOLUTION** System Flag:

**NO** (Default) Video streams sent to and received from the MS AV MCU are HD720p30, SD, and CIF.

**YES** Video streams sent to the MS AV MCU are HD1080p30, SD, CIF. Video streams received from the MS AV MCU are 720p30,SD, and CIF.

### Limit Maximum Resolution for MS SVC Using a System flag

The **MAX\_MS\_SVC\_RESOLUTION** System Flag can be used to minimizing the resource usage by overriding the default resolution selection and limiting it to a lower resolution.

**Range:** AUTO, CIF, VGA, HD720, HD1080

**Default:** AUTO

The **MAX\_MS\_SVC\_RESOLUTION** System Flag operates independently from the **MAX\_RTV\_RESOLUTION** System Flag allowing differing maximum resolutions to be selected for the MS SVC and RTV protocols.

If you want to modify System Flag values, the flags must be added to the System Configuration file. For more information see: [Modifying System Flags](#), [Video Resource Requirement Selection in Lync 2013 AVMCU Cascade](#) and [Controlling Resource Allocations for Lync Clients Using RTV Video Protocol](#) in the *RealPresence Collaboration Server (RMX) Administrator Guide*.

### CSS Gateway for RDP and SIP BFCP Content

The CSS (RealPresence Content Sharing Suite) Gateway improves the Content interoperability between Lync clients and non Lync clients in a conference. Lync clients connected to a Lync AV MCU use their native Content protocol, RDP (Remote Desktop Protocol) and Polycom endpoints, use their native SIP BFCP Content protocol, to send or receive Content, to or from the CSS Gateway, which renders a RDP ↔ SIP BFCP Content stream.

The Gateway functionality was previously enabled by a combination of: Content Add-on for Lync; Content Sharing Server; and BFCP Content-Only Client Plug-in. These functionalities have been incorporated into the CSS, eliminating the need for plug-ins.

For more information see:

[RealPresence® Content Sharing Suite Administrator Guide](#)

[Unified Communications Deployment Guide for Microsoft Environments](#)

### CSS Gateway Usage Guidelines

MS AV MCU Cascade is the only Deployment Architecture that is supported.

For more information see [Deployment Architecture 2 - MS AV MCU Cascade](#) in the *RealPresence Collaboration Server (RMX) Administrator Guide*.

One CSS RDP Gateway connection is supported per conference in the Collaboration Server, initiated by the DMA through the CSS server.

There is no Lync client associated with the CSS Gateway connection and even if the AV MCU is empty the CSS will be still be connected. The Collaboration Server does not consider the CSS RDP Gateway connection as a participant and if the conferences on both the Collaboration Server and the AV MCU are empty it will disconnect the CSS RDP Gateway and the AV MCU link.

When a Content sharing endpoint is detected by the Collaboration Server side the CSS RDP Gateway will receive BFCP message triggering the RDP session on the Lync side of the topology.

For backward compatibility the Collaboration Server will support Content sharing using either the CSS Gateway or the previous plug-in based Content sharing solution, however not in the same conference.

## FEC (Forward Error Correction) Support

FEC is supported for RTV and MS SVC video protocols.

- FEC will be automatically turned on by the VSR (Video Source Request) message.

Redundant Audio Data (RED) is supported for the following Audio CODECS:

- G.722
- G.711A
- G.711U

The Collaboration Server transmits RED when packet loss is reported and stops sending RAD when packet loss is stopped.

For more information see [Lost Packet Recovery](#) in the *RealPresence Collaboration Server (RMX) Administrator Guide*.

## IPv6 Support

In addition to IPv4, IPv6 is supported in Lync 2013 environments.

Following IP modes are supported for all network connections—ICE, Media, Management, Signaling, etc.:

- IPv4 only
- IPv6 only
- IPv4 & IPv6

As in previous versions, IPv4 Candidates are advertised first in the SDP.

IPv6 is not supported by Lync 2010. All dial out calls from the Collaboration Server are considered Lync 2010 calls and utilize IPv4.

Dial out calls from DMA to Lync environments are considered to be dial in calls from the Collaboration Server perspective.

The ANAT (Alternative Network Address Types) option is not applicable in Lync environments.

For more information see [IPv6 Addressing Guidelines](#) in the *RealPresence Collaboration Server (RMX) Administrator Guide*.

## DHCPv6 Support for Auto IPv6 Address Assignment

*DHCPv6 Auto IPv6 Addresses Assignment*, as required by Lync 2013 environments is now supported.

As in previous versions, SLAAC (Stateless Address Auto Configuration) continues to be supported.

System behavior can be controlled by adding the `IPV6_AUTO_ADDRESS_CONFIGURATION_METHOD` System Flag and setting its value as required.

**AUTO**—(default) Use DHCPv6 first in case of failure use SLAAC.

**SLAAC**—Use SLAAC only.

For more information see, [Modifying System Flags](#) in the *Collaboration Server (RMX) Administrator Guide*.

## Collaboration Server Managing Telepresence Speaker Priority Layouts for AVC Endpoints

The Collaboration Server can be used to manage Continuous Presence Video Layouts using *Speaker Priority*, a new Telepresence Layout Mode.

### Speaker Priority

The purpose of Speaker Priority Mode is to provide high visibility to the speaker's room and to ensure that the active speaker in the conference is always displayed in the video layout, and displayed in the best way possible. If there is space in the layout while the active speaker is displayed, previous speakers are also displayed.

### Reserved Screens

When Speaker Priority mode is selected each Room System reserves screens to provide high visibility according to maximum number of room-screens in the conference, displaying the active speaker in the largest video layout cell available.

The Speaker Priority option is selected in the Video Settings tab of the Profile dialog. For more information see [Changes to the Profile - Video Settings Dialog](#)



The number of reserved screens depends on the maximum number of room-cameras connected to the conference. Typically, two room-cameras are displayed one screen, three room-cameras on three screens, and four room-cameras on two screens.

Reserved screens include an Overlay Layout (Filmstrip) that may be populated with other conference participants after the Grid Screen(s) have been fully populated with additional conference participants. See [Video Layout Examples](#).

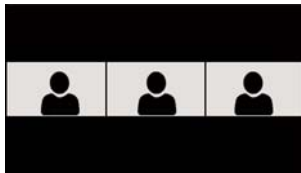
## Grid Screens

Grid screens are symmetric video layouts (2x2, 3x3, 4x4) that are populated with other conference participants after the Reserved Screens are populated with the current and previous speakers. Grid screens are only available when the room system has more screens than the number of reserved screens—grid screens typically exist within 2 or 4 screen systems. See [Video Layout Examples](#).

## Video Layout Examples

- A three-screen Room System will reserve three screens if another three-camera Room System participates in the conference. If the active speaker is using a single camera endpoint, the active speaker is displayed on a full screen while the two previous speakers are displayed on the other two screens.
- Irrespective of whether the receiving Room System has more screens than the active speaker's Room System:
  - An active speaker's two-camera room is displayed on one screen. 
  - An active speaker's four-camera room is displayed on two screens. 
- Three-screen Room Systems (e.g. OTX / TIP) will not zoom out when Speaker Priority is selected. The layout below is used when the active speaker is using a 3-screen room system and the viewing endpoint is a single-screen endpoint.

### Single Screen



Active speaker is displayed in 3 cells.

The layout below is used when the active speaker is using a single-screen endpoint and the viewing endpoint is a single-screen endpoint.

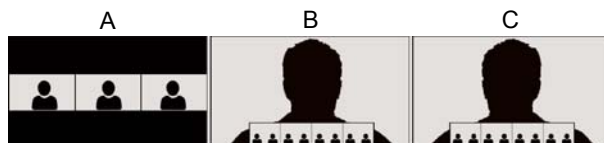
### Single Screen



Active speaker is displayed in 1x1  
Filmstrip displays the most recent speakers.

The layout below is used when the active speaker is using a single-screen endpoint and the viewing endpoint is a 3-screen endpoint.

**Room System - 3 Reserved Screens**



Active speaker can be displayed in the left, right, or center screen.  
Filmstrip displays most recent active speakers not already displayed.

A: Displays 3-screens (e.g. OTX/TIP) of recent active speakers.

B: Active Speaker and filmstrip.

C: Displays single-screen recent active speaker and filmstrip.

The layout below is used when the active speaker is using a 3-screen room system and the viewing endpoint is a 3-screen endpoint.

**Room System - 3 Reserved Screens**



Active speaker's Room System is displayed in all 3 screens.

Filmstrip displays most recent active speakers.

The layout below is used when the active speaker is using a 3-screen room system and the viewing endpoint is a 3-screen endpoint.

**Room System - 3 Reserved Screens**



Filmstrip displays most recent active speakers.

Active speaker's Room System is displayed in all 3 screens.

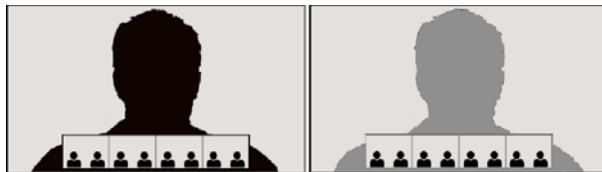
- If a two-screen Room System is displaying a active speaker using a one-camera endpoint, and a previous speaker also using a one-camera endpoint, the following layouts will be displayed on the Room System's two screens.

The layout below is used when the conference includes 4-screen rooms where both the active speaker and the previous active speaker are using single-screen endpoints.

**Room System - 2 Reserved Screens**

Screen 1 - Reserved

Screen 2 - Reserved



Active Speaker  
+ Participants Filmstrip

Previous Speaker  
+ Participants Filmstrip

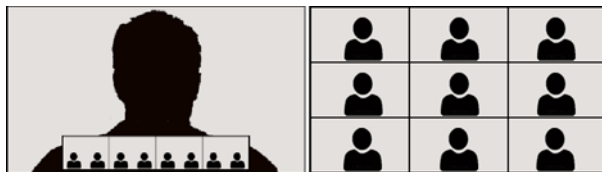
Active speaker can be displayed in either the left or right screen.

The layout below is used when the conference includes 1, 2, and 3-screen rooms where the active speaker is using a single-screen endpoint.

**Room System - 1 Reserved Screen**

Screen 1 - Reserved

Screen 2 - Grid (3x3)



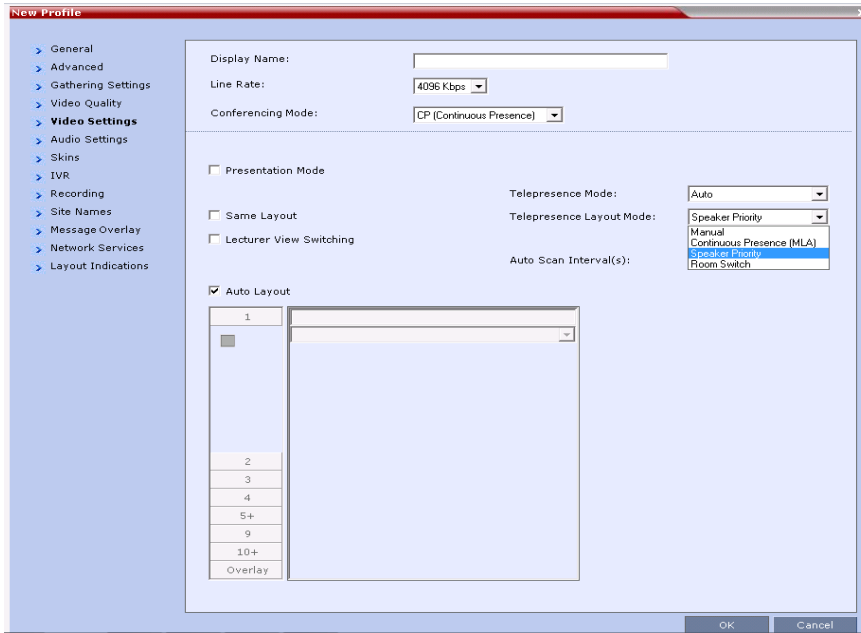
Active Speaker  
+ Participants Filmstrip

Participants

## Changes to the Profile - Video Settings Dialog

In the Video Settings tab of the Profile dialog, the Telepresence Layout Mode menu has been modified:

- Speaker Priority has been added as an option.
- Continuous Presence has been renamed Continuous Presence (MLA).



### Telepresence Mode License

The Telepresence Layout Mode field is enabled only if the Collaboration Server system is licensed for Telepresence Mode.



### AVC endpoints only

Telepresence features are currently only supported in AVC-CP conferences. SVC or SVC and CP Mixed Mode conferences are not supported.

## RPP REST API Support in Version 8.5

In version 8.5, some changes were introduced into the REST (REpresentational State Transfer) API used by the RMX.

This mechanism uses the REST API interface as used across Polycom RealPresence Platform solution/products. For Polycom REST API documentation, see

The changes in the REST API support are described in the table below.

### RMX REST API Modifications

RMX Property	Resources	Methods	Addition/Modification	Platforms
All REST API functionalities	All resources supported by RMX	PUT	Addition of Etag to PUT method. Allows clients to store data in Etag, retrieve updated resource via GET, modify to new resource in Etag, and update resource with data stored in Etag via PUT.	All MCUs
NTP plcm-time	<a href="https://localhost:8443/api/rest/config/time-config">https://localhost:8443/api/rest/config/time-config</a>	PUT	When using PUT, allow replacing IP address with site name (via DNS) in the parameter ntp-server-list (NtpServerList).	All MCUs
Licensing server (FLEXERA)	<a href="https://localhost:8443/api/rest/config/licenses/license-status">https://localhost:8443/api/rest/config/licenses/license-status</a>	GET	Added resource. Allows retrieval of license validity.	Virtual Edition

The table below summarizes the elements currently supported by the RMX.

### RMX REST API supported functionalities

RMX Property	Resources	Methods	Functionality Description	Platforms
External CDRs plcm-cdr-client-config	<a href="https://localhost:8443/api/rest/config/cdr-client-config">https://localhost:8443/api/rest/config/cdr-client-config</a>	GET PUT	CDR server configuration (IP/name, port, username, password, etc.)	All MCUs
NTP plcm-time	<a href="https://localhost:8443/api/rest/config/time-config">https://localhost:8443/api/rest/config/time-config</a>	GET PUT	Time settings (enable/disable NTP, list of NTP servers)	All MCUs
Licensing server (FLEXERA) plcm-license	<a href="https://localhost:8443/api/rest/config/licenses/refresh-licenses">https://localhost:8443/api/rest/config/licenses/refresh-licenses</a>	POST	Licensing server configuration (IP/name, port, and authentication information).	Virtual Edition
	<a href="https://localhost:8443/api/rest/config/licenses/authority-config">https://localhost:8443/api/rest/config/licenses/authority-config</a>	PUT	License refreshing.	
	<a href="https://localhost:8443/api/rest/config/licenses/license-status">https://localhost:8443/api/rest/config/licenses/license-status</a>	GET	Returns the license status and associated features associated with this product.	



## Advanced Network Resiliency

### LPR-related content rate flags

Flag Name	Description	Range / Default	Modifying
LPR_CONTENT_RATE _ADJUST_WEAK_LPR	<p>When LPR is initiated by an endpoint in an AVC-CP conference due to experienced packet loss, the MCU reduces video rate (minimum is 64K) to avoid exceeding bandwidth.</p> <p>At times, further reduction is required to preserve the bandwidth, which is regulated by this system flag.</p> <p>Set this flag value to <b>YES</b>, to enable H.323 endpoints to reduce their content rate or LPR strength as follows:</p> <ul style="list-style-type: none"> <li>• <b>For single MCU conferences:</b> <ul style="list-style-type: none"> <li>▲ <b>VSW content</b> - Drop content rate upon packet loss condition.</li> <li>▲ <b>Transcoding</b> - Drop content rate upon packet loss condition for the protocol used by the endpoint experiencing the packet loss.</li> </ul> </li> <li>• <b>For cascaded conferences:</b> <ul style="list-style-type: none"> <li>▲ <b>VSW content</b> - Decrease LPR strength (from 5% to 2%).</li> <li>▲ <b>Transcoding:</b> <ul style="list-style-type: none"> <li><u>If packet loss occurs at one of the local endpoints</u>, drop content rate upon packet loss condition for the protocol used by the endpoint experiencing the packet loss.</li> <li><u>If packet loss occurs at the cascaded link</u>, decrease LPR strength (from 5% to 2%).</li> </ul> </li> </ul> </li> </ul> <p>If you set this flag to <b>NO</b>, the content rate is not reduced, and MCU packet loss protection is guaranteed for 5%.</p> <p><b>Note:</b> This flag should not be set to <b>YES</b> in systems using TIP conferencing.</p>	YES, NO / NO	Requires manual addition with no system reset.

## Added System Flag

### Content rate system flag

Flag Name	Description	Range / Default	Modifying
ENABLE_CONTENT_OF_768_FOR_1024_LV	<p>Generally, the content rate used for 1024 Kbps conferences with a Live Video settings, is 512 Kbps.</p> <p>Set this flag to <b>YES</b> to increase the content rate in such a scenario to 768 Kbps. However, remember that video rate will decrease to 192K with typical audio rate of 64K.</p> <p>This flag is applicable for protocols supporting H.264 media protocol usage:</p> <ul style="list-style-type: none"> <li>• <b>H.263 and H.264 auto selection</b></li> <li>• <b>H.264 HD</b></li> <li>• <b>H.264 Cascade Optimized</b></li> </ul>	YES, NO / NO	Requires manual addition with no system reset.

# Version 8.5.4 Detailed Description - New Features

---

## Locking and Unlocking a Conference via MCU



**Note: Feature Not Supported in Conference Running via DMA**

This feature is only supported when the DMA is not acting as the MCU manager, and participants dial-in directly to the MCU and not via VMR.

Locking or unlocking a conference could previously only be carried out via a digital DTMF code. Locking and unlocking a conference can now be enabled or disabled via:

- Web GUI
- RMX Manager
- XML API

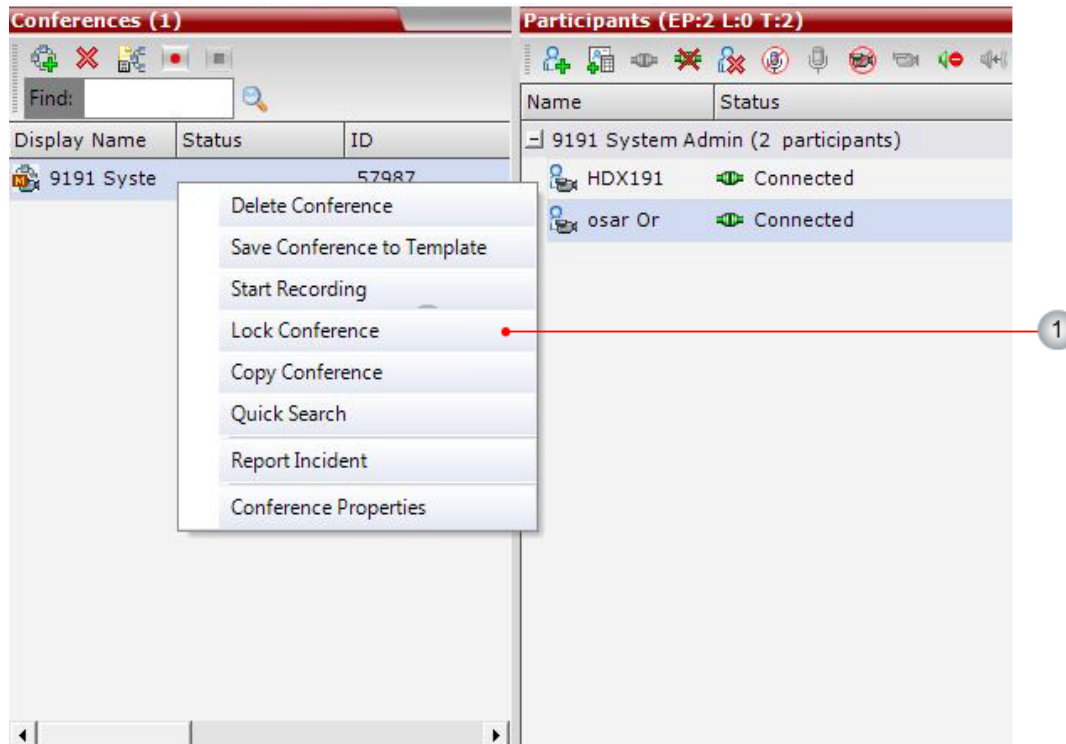


**Note: Locking and Unlocking Permissions:**

You must be logged in as a chairperson, operator, or administrator to access this feature.

**To lock a conference via Web GUI or RMX Manager:**

- 1 In the Conference pane, right-click the conference name.
- 2 In the drop-down menu, select **Lock Conference**.



Reference Number	Description
1	Lock conference

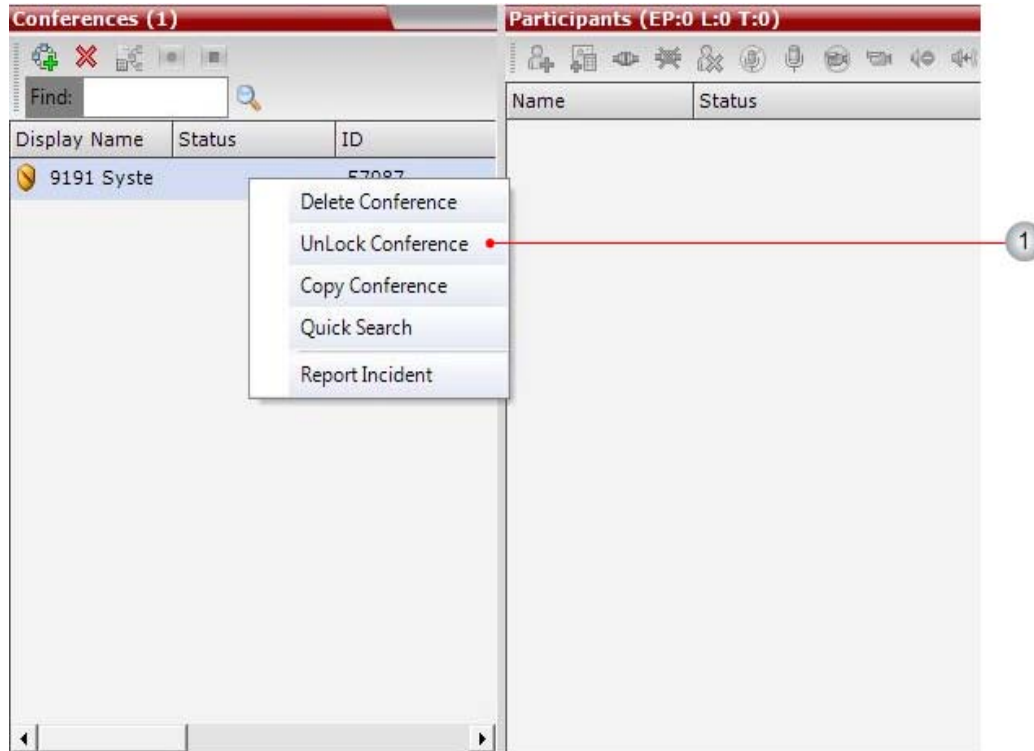
### To unlock a locked conference via Web GUI or RMX Manager:

- 1 To unlock a locked conference via Web GUI or **RMX Manager**:
- 2 1 In the **Conference** pane, right-click the conference name.
- 3 In the drop-down menu, select **Unlock Conference**.



#### **Caution: Conference Locking via Web GUI or RMX Manager hides Participant List**

Locking the conference via Web GUI or RMX Manager hides the list of conference participants in the **Participants** pane.



Reference Number	Description
1	Unlock conference



#### Notification of Locked (Unlocked) Conference:

- If the conference is locked, a voice prompt informs users that the conference is secured and they cannot join. Also, there is no display of participants taking part in the conference.
- If the conference is unlocked, a voice prompt informs users that they are free to join the conference and all participants taking part in the conference are displayed.
- If lock/unlock is enabled in the MCU and without any interaction with a Lync cascaded conference, both the Polycom and Lync sides of the conference restrict adding new participants.

### Conference locking via XML API

A new boolean element, SET\_LOCK, was added to trans\_conf\_2.xsd schema.

Setting its value to TRUE locks the conference.

It's default value is FALSE - unlocked.

## Reestablishing Connection via DMA to AV MCU Following Collaboration Server Failure

Polycom RealPresence Collaboration Server supports conferencing with Microsoft Lync clients via a VMR in the DMA, where the Collaboration Server is connected through a cascading link to Microsoft AV MCU. Should the Collaboration Server fail, the DMA containing the VMR to which both MCUs were connected, is capable of recreating the conference on an alternate Collaboration Server.

To complete this capability, from version 8.6 and on, the DMA has the added capability to re-establish the cascading link to the AV MCU as well. This is done by the Collaboration Server providing the AV MCU Focus (SIP) URI to the DMA, as part of the conference information, even for Ad-Hoc conferences.

In addition, two additional values are passed via the XML API from the Collaboration Server to the DMA within the conference information, to enable proper termination of the recreated conference (as explained in the conference termination below):

- The original AV MCU conference type - scheduled (AV MCU), scheduled (PCM), Ad-Hoc, or none (meaning non-AV MCU conference).
- The value of the “To” field in the original invitation.

### Cascading Conference Reestablishment Process

- 1 Once the DMA detects a Collaboration Server failure (via XML API or ping), it disconnects all the Collaboration Server SIP connections (legs) except the SIP connection to the AV MCU.
- 2 The DMA recreates the conference on an alternate Collaboration Server, and passes to it (via XML API) the AV MCU Focus URI, the conference type, and the value of the original “To” field in the Microsoft invite, as preserved from the original conference.
- 3 The Collaboration Server uses the Focus URI to recreate the cascading link to the AV MCU, and recreates the conference using the conference type retained from the original conference.
- 4 The Collaboration Server uses the original “To” field value to create SIP sessions to the “leftover” SIP connections from the AV MCU to the original Collaboration Server in order to disconnect them.

### Reestablished Cascading Conference Termination

Once all the Collaboration Server participants are disconnected, the Collaboration Server uses the retained conference type to determine whether or not the cascading link to the AV MCU should be disconnected:

- For scheduled conferences - The cascading link is disconnected.
- For Ad-Hoc conferences - The cascading link is not disconnected.

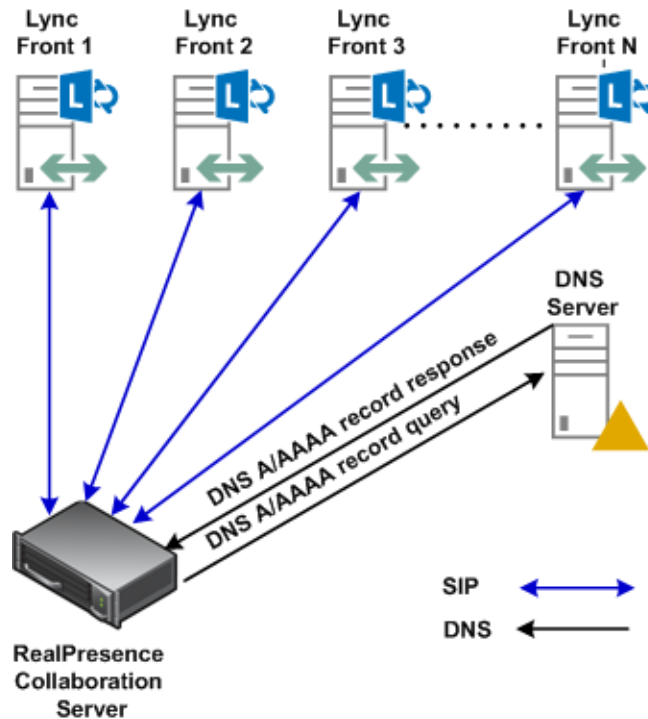
## DNS Load Balancing on Lync Front End Pool

In the Lync environment, the Front End server is the SIP server, Focus server and A/V MCU.

Polycom® RealPresence® Collaboration Servers 1800/2000/4000, and Virtual Edition, support DNS load balancing that balances the SIP traffic to maximum up to 12 Front End servers in the same Front End Pool.

The Collaboration Server supports DNS load balancing on Lync Server 2010 and Lync Server 2013.

Following figure shows how the Collaboration Server supports DNS load balancing.

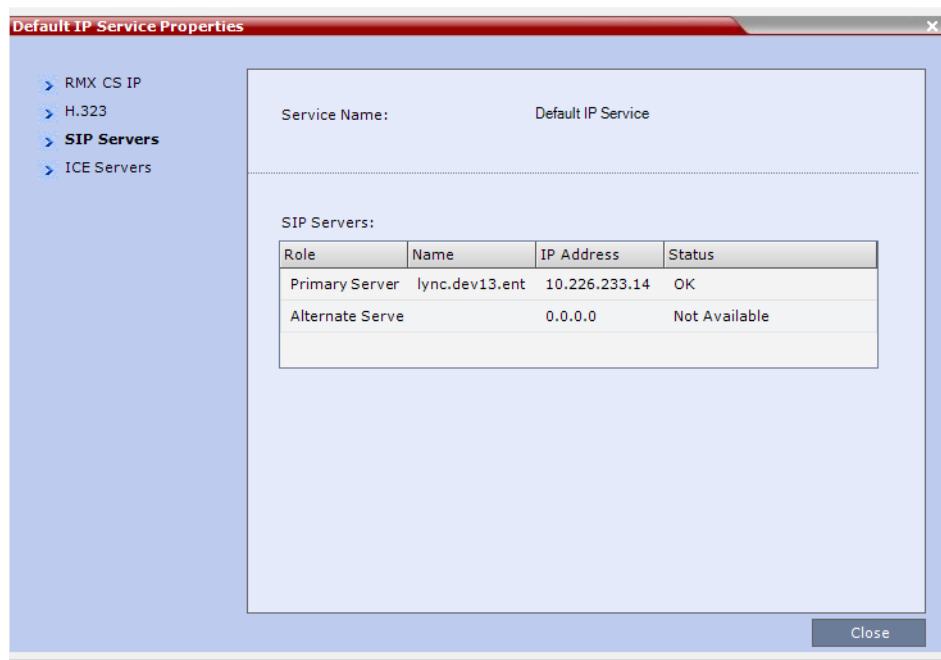


All Front End (FE) servers in the pool register themselves in DNS server with the same FQDN but different IP addresses (both IPv4 and IPv6 are supported).

The Collaboration Server supports both FE Load Balancing and FE Failover.

- FE Load Balancing, is implemented by the DNS server. Each DNS query is replied by the DNS server with different priorities, and the Collaboration Server connects with the FE with the highest priority.
- FE Failover, in case the Collaboration Server fails to communicate with the first FE in the DNS list, it will try and gain connection with the second FE in the list, and so on.

The Collaboration Server presents the FE IP connected in the **Default IP Service Properties > SIP Servers** tab as shown below:

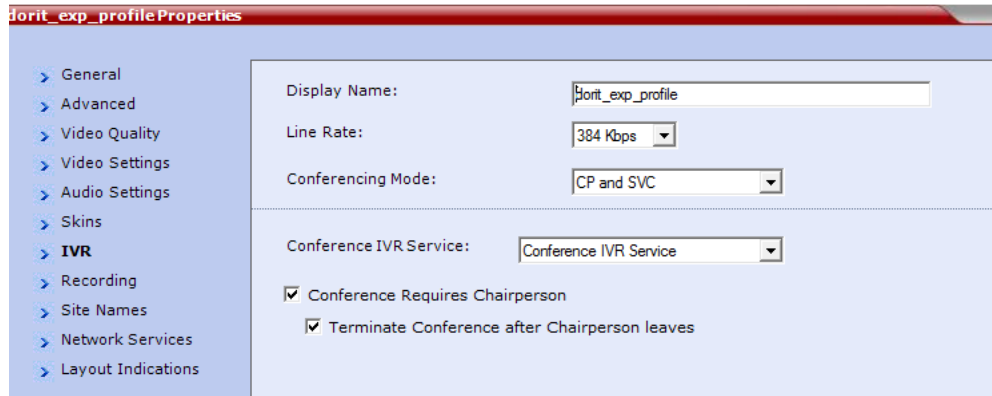


## Wait for Chairperson when Collaboration Server is in Lync AV MCU Lobby

In Microsoft Outlook, you can determine that all the participants in the conference should await the Organizer in the AV MCU lobby. This feature in AV MCU is, in fact, the equivalent of Collaboration Server chairperson concept, where participants await the chairperson presence before the conference can begin, depending on conference/profile configuration.

From now on, in a cascading conference, where the Collaboration Server cascaded link is awaiting the Organizer attendance in the AV MCU lobby, the participants connected to the Collaboration Server will also await his presence in the lobby, provided the conference profile is configured to begin upon first chairperson connecting (first check-box below), either by DMA via API specification, or by the Collaboration Server Administrator user following DMA request to use a certain profile with this option set.





The purpose of this is to maintain conferencing stability, which suffered in the past due to discrepancy between Lync and the Collaboration Server conferencing chairperson settings. It also prevents mis-usage of Polycom VMR and conferencing services during the two weeks following the meeting, which was possible due to Lync keeping the meeting VMR open for that duration, thus allowing its unauthorized re-usage.




If the conference is configured to be without a chairperson, the participants connected to the Collaboration Server can freely view and hear each other, whereas the participants connected to the AV MCU have both video and audio muted.

Once the Organizer leaves the conference, the conference should not end automatically. Instead the Collaboration Server should imitate the client behavior.

If the cascading link to the AV MCU is disconnected, the Collaboration Server should follow the conference configuration, meaning, terminate the conference only if the **Terminate Conference after Chairperson leaves** (second check-box in the figure above).

The AV MCU cascaded link is considered as chairperson, resulting in the participants connected to the Collaboration Server awaiting the connection to AV MCU in the lobby, with no actual chairperson required on the AV MCU side or at an endpoint.

The Master AV MCU participant will have a chairperson icon (  ) attached to its name in the Collaboration Server conference participants screen.

Since chairperson password is not supported in Microsoft Outlook, it is bypassed by exploiting the fact, that the Collaboration Server does not request a chairperson password if the conference password was entered. Therefore, the DMA generates a conference password, and uses this password when calling all the participants in the conference, which in turn use it to connect the conference, without the chairperson password being required.



All ContentConnect (Polycom content sharing for Microsoft environments) related actions begin only after the Collaboration was moved from the AV MCU lobby into the conference.

## Support for Skype for Business

All descriptions applicable for Lync 2013 are also applicable for Skype for Business.



### Note: Support for Microsoft® Skype for Business

- The latest RPP versions are required.
- The Polycom product versions and the Microsoft® Skype for Business versions tested can be found in the Release Notes for Polycom Unified Communications for Microsoft Environments - June 2015 at Polycom Unified Communications for Microsoft Environments.

## Configuration option to disable G.729

A new System Flag, **ENABLE\_G729**, has been added.

Modifying its value to **NO** ensures that the G.729 codec is disabled, and G.711 is used instead. This is useful in calls where audio quality is affected by lower line rates.

Range: YES (default) / NO

To modify the System Flag value, the flag must be added to the System Configuration file. System Reset is not required after changing the flag's value. The modified flag setting will affect new calls.

For more information see [Modifying System Flags](#).

## New Certificate Signing Request (CSR) Guideline

You can add an Management and Signaling Certificates through **Setup > RMX Secured Communication > Certification Repository > Personal Certificates** dialog box.

The only Certificate Method you can selected for adding Management and Signaling Certificates is **CSR**, then you can create a new certificate request by entering following attributes according to the new CSR guidelines:

**Common Name (DNS):** Your network administrator may have specific requirements for the content of these fields. The field is empty by default. In the absence of any other guidance, it is recommended that the following information be contained in this field:

- If DNS is being used, enter the DNS Fully Qualified Domain Name (FQDN) of the Collaboration Server Management Network Interface. This should match the Host Name and Domain configured in the Management Network Properties dialog box.
- If DNS is not being used in your deployment, enter the IP Address of the Collaboration Server Management Network Interface.

**Subject Alternative Name (SAN):** This field is required when using EAP-TLS in conjunction with a Network Policy Server (MS-NPS), you can fill up to 20 SANs. The field is selected by default, and when it is selected, you can modify the example values provided, to match local certificate requirements and delete those that are not applicable.

- Principle Name: The default example will display as below:

```
Principle Name=user@example.com
```

- DNS Name: If DNS/MCU Host name is configured, the configured name will display, otherwise a default example will display as below:

```
DNS Name=myhost.example.com
```

Replace `myhost.example.com` with either FQDN of the Collaboration Server Management Network Interface or the MCU Host name.

- IP addresses:
  - If RMX is configured with IPv4, then the IPv4 address will display.
  - If RMX is configured with IPv6, then the IPv6 address will display, besides you can also enter additional IPv6 addresses.
  - If RMX is configured with both IPv4 and IPv6, then both IP addresses will display.

Following is a complete example as your reference:

Example:

```
DNS Name=rmx1.polycom.com
IP Address=10.11.12.13
IP Address=fe80::592f:6a4c:87b:b69a
IP Address=fe80::2e0:dbff:fe0b:f9e4
```

If an incorrect SAN type is entered, an error message, Unsupported SAN type, is displayed when the **Send Details** button is clicked.



The SAN field option - DNS Name (FQDN) is not used for Machine Account validation. For example, the DMA will not validate the Collaboration Server unless the FQDN field in the User Properties dialog box is correctly filled in.

**Hash Method:** Select the output value for the Secure Hash Algorithm:

- **SHA-256:** the output value is 256 bits.
- **SHA-1:** the output value is 160 bits.

For backward compatibility, with previous versions, either SHA-1 or SHA-256 can be selected as the hash algorithm used in the creation of CSRs.

## Enable Chairperson Managing Cascaded Meetings

From version 8.6 and on, a conference may be started or terminated based on a chairperson presence in any MCU within a cascading topology.

This feature depends on conference profile configuration as shown in the figure below:

- The conference begins upon first chairperson connecting (first check-box).
- The conference terminates upon last chairperson disconnecting (second check-box).



### Process Description

Once a chairperson connects an MCU in the cascading topology, the conference begins locally at this MCU.

The DMA polls (via API), from all the MCUs in the cascading topology, information on the cascading conference and its participants, which includes information of chairperson participants. The DMA sends the conferences information to all the MCUs, registered for conference notifications (via EventPackage).

Through these notifications each of the subscribed MCUs can determine the point at which the first chairperson joins the conference, and begin transmitting the conference audio/video to the connected participants. Similarly, each MCU can determine at which point the last chairperson disconnects from the conference, and terminate the conference.

During the conference, a new MCU may link to the cascading conference. This MCU subscribes to the DMA for conference notifications. Should a chairperson be connected to the conference on that MCU, this chairperson presence is passed (as explained above) to the other MCUs in the cascading topology, so each of the MCUs can process the information and act accordingly.

The DMA server used for subscribing to the EventPackage conference notifications is reached using a URI, obtained by the MCU through the XML API.

### Chairperson in Cascading Environment Guidelines

- The IP network service related to the conference should support SIP:
  - The IP network service and the EventPackage use the same transport type.
  - It is recommended not to use UDP as transport type.
- Participants connecting the conference via a gateway, are required to enter the chairperson password in order to be considered chairperson.

## Error Handling

The following error handling measures are taken:

- If the EventPackage SIP connection to one of the MCUs fails to establish following 3 consecutive attempts, that MCU generates an active alarm specifying the specific conference and VMR. This alarm is cleared upon conference end. The failing MCU will join the conference based on a local chairperson presence, instead of anywhere within the cascading topology.
- On the off chance that one of the cascaded links breaks, EventPackage functionality continues, and connected MCUs continue based on the EventPackage notifications. Possible unexpected behavior due to this broken link may occur.

# Version 8.5.10 Detailed Description - New Features

---

## Enable Personal Layout in Lecture Mode

Beginning with this version, Personal Layouts can be modified in conferences defined to operate in Lecture Mode. In previous versions Personal Layout was disabled for conferences operating in Lecture Mode.

The Personal Layout of the operator can be modified, allowing the operator to view the video of a participant designated to be the next lecturer. The designated participant can be advised about camera settings, etc. before being assigned by the operator as the new lecturer.

The Personal Layout of the current Lecturer cannot be modified.

In cascaded conferences personal layouts can be modified while in Lecture Mode, but only for participants that are hosted on the local MCU.

DTMF code "0", entered from a remote control or other device will return a user's endpoint to the conference layout. All other Click&View DTMF codes are ignored while the conference is in Lecture Mode.

If **Send Content to Legacy Endpoints** is checked in the conference profile, participants with endpoints that do not support the meeting's Content settings can view Content using the people video channel.

For more information see [Lecture Mode](#) and [Personal Conference Manager \(PCM\)](#).

# Corrections and Known Limitations

## Corrections between Version 8.5.4 and Version 8.5.10

### Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Corrections

Issue ID	Category	Description	Detected in Version
BRIDGE-22259	Audio	When following re-invite, the audio codec is modified by the Collaboration Server, endpoints do not receive the audio.	V8.5.3
BRIDGE-22533	Audio	Random participant can be heard by some participants but not heard by others in the same VMR.	V8.5.3
BRIDGE-22645	Audio	SIP calls from VoIP phone to RMX 1500 fails after the RMX 1500 is upgraded to V8.5.4.107.	V8.5.4
BRIDGE-22636	Cascading	In a cascaded conference, sharing content consumes excessive bandwidth then line rate configured in conference profile.	V8.5.2
BRIDGE-21607	Cascading	When using Realconnect, Memory leak occurs in CSipAddPartyCntl::BuildNewSrcPartyAddress() on RMX using MPMRx media cards.	V8.5.3
BRIDGE-21614	Cascading	When using Realconnect, Confparty core dump occurs when dragging DMA conference to Meet Now conference on RMX using MPMRx media cards.	V8.5.3
BRIDGE-21958	Content	Video Quality deteriorates after sharing Content when using RMX with MPMx media cards.	V8.5.2
BRIDGE-21455	Content	Endpoints connected to RMX using MPMx media cards display blue screen during cascade with Cisco Codian MCUs with, when Content is shared from Cisco side.	V8.5.3
BRIDGE-21320	Content	H.263 Content transmission rate is too slow for end points connected at 128kbps on RMX1800 and RMX using MPMx media cards.	V8.5.3HF
BRIDGE-21956	Content	A Group550 endpoint disconnected following content sharing	V8.5.2
BRIDGE-20791	Content	Poor Content quality due to H264 content encoder set to very low rate bitrate -192Kbs on RMX using MPMRx media cards.	V8.5.3

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Corrections**

Issue ID	Category	Description	Detected in Version
BRIDGE-21956	Content	Group550 endpoint disconnects after sharing Content.	V8.5.2
BRIDGE-21382	Content	Polycom GS 500 in a conference fails to share content to Tandberg, Aethra and V700 endpoints in another conference with same conference profile.	V8.5.3HF
BRIDGE-21826	Content	Sharing content to participant in a cascading conference fails, instead blue screen displays.	V8.5.3
BRIDGE-22423	Encryption	Call from HDX via Acme SBC to DMA VMR using "Encrypt When Possible" setting fails with call rejected by RMX.	V8.5.4
BRIDGE-22083	Gateway	The Gateway Service does not accept ** sequence to route call to voice, but instead asks for destination number when using RMX with MPM+ media cards.	V8.6.2
BRIDGE-22542	Gateway	RealConnect gateway will randomly cease to function during a call on RMX using MPMx media cards.	V8.5.4
BRIDGE-21914	General	Core dump occurred on RMX while logs were being collected when using RMX with MPMx media cards.	V8.3
BRIDGE-22624	General	Internal communication error occurs if Conference ID is deleted followed by saving the meeting room on RMX1800 and RMX1800-0 MCUs.	V8.6.2
BRIDGE-22732	General	RMX is no longer able to display Address Book from Resource Manager using port 443 after upgrading Resource Manager from v8.2.1 to v8.4.1, on RMX Appliance and Virtual Edition MCUs.	V8.6.3
BRIDGE-21327	General	Core dump generated when using RMX with MPMx or MPMRx media cards.	V8.6
BRIDGE-22023	General	Participant calls are rejected when using RMX with MPMRx media cards.	V8.6.2
BRIDGE-22512	General	Keep- Alive fails and DSP crashes when using RMX with MPMRx media cards.	V8.5.3
BRIDGE-21593	General	RMX(Rx) system undergoes high CPU usage, and generates Software Assert failures. DMA loses connectivity to RMX and no new calls can be hosted by the RMX.	V8.5.3
BRIDGE-21598	General	Core Dump file generated on ConfParty on RMX using MPMx / MPMRx media cards. No calls were lost.	V8.5.3
BRIDGE-22412	General	When IP Network service is configured to Microsoft, RMX is unable to receive DTMF in calls to the Virtual Entry Queue.	V8.5.4
BRIDGE-21399	General	Participants Status is "Disconnecting" in the Conference List, and the conference cannot be deleted when using RMX with MPMx media cards.	V8.5.2



**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Corrections**

Issue ID	Category	Description	Detected in Version
BRIDGE-21894	General	A major Alarm "No LAN connection port 1", though Multiple Network Services is enabled, and only 3 ports are configured/connected.	V8.5.3 HF
BRIDGE-21331	General	Software Assert errors are displayed after upgrade to RMX_8.5.3.66_1010.12 (following on from SR 1-1190805221 / Jira IE-1) on RMX using MPMx media cards.	V8.5.3
BRIDGE-22337	General	ICE doesn't function if DNS is not configured in Management Network Service on RMX(X).	V8.5.4
BRIDGE-21914	General	Core dump occurs on RMX(X) system while logs are being collected.	V8.3
BRIDGE-21340	General	No Personal Layout option is available on Media Sources tab in any conference profiles except the factory conference profiles on RMX(X) system.	V8.5.3HF
BRIDGE-22521	General	Duration doesn't display correctly as configured for Meeting Room.	V8.5.4
BRIDGE-21759	General	Core dump of MFA in Collaboration Server 2000 with MPMRx media card, following repetitive connect/disconnect operations performed on a conference using a 4M ITP profile to which 5-10 ITP endpoints are connected.	V8.5.3 HF
BRIDGE-22400	General	Core dumps seen in Faults List on RMX using MPMx media cards.	V8.5.3HF
BRIDGE-22447	General	RMX using MPMx media cards rebooted with message "Internal MCU resetMcmsDaemonMcmsDaemon reset due to WD policy decision: Process failed [0:0] : ConfParty".	V8.5.3 HF
BRIDGE-22725	General	Endpoints cannot disconnect from DMA VMR, the endpoints are stuck in disconnecting state, and the conference cannot be deleted.	V8.5.4
BRIDGE-22589	General	Core dump and major alarm of "Initialization of ice stack failedSipProxyIce Server Unavailable" is observed on RMX (X) system.	V8.5.4HF
BRIDGE-22467	H.323	Core Dump generated when RMX using 2 MPMX cards crashed during conference.	V8.5.3
BRIDGE-21518	Hardware	After Multiple Service is configured on RMX 4000 (MPMx) system, RTM-LAN ports status in Hardware Monitor is not correct. The ports status is Standby instead of Active.	V8.5.3HF
BRIDGE-21448	Interoperability	CallSignalAddress in ARQ for inter-cluster call is incorrect when using RMX with MPMx or MPMRx media cards.	V8.5.2
BRIDGE-22386	Interoperability	Hung calls experienced from MGC cascade, and participant or conference with a participant cannot be deleted when using RMX with MPMRx media cards.	V8.5.3HF

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Corrections**

Issue ID	Category	Description	Detected in Version
BRIDGE-20273	Interoperability	Call bitrate setting in Conference Profile on a RMX Virtual Edition MCU does not correctly limit the call connection bitrate in calls from a HDX endpoint.	V8.5
BRIDGE-21362	Interoperability	RPX or TPX ITP room containing HDXs as the last participant isn't automatically terminated from the conference on RMX 2000.	V8.5.2
BRIDGE-21404	Interoperability	If a WAN optimizer is in use, RMX doesn't response to TCP SYNC for generating H.323 setup message. A system flag CPU_TCP_TW_RECYCLE is added with default value 0 (disabled). The system flag is only available to RMX systems.	V8.5.3
BRIDGE-21423	Interoperability	Cisco MXP does not receive Content if it connects to an RMX Meeting Room that already has Content shared by another Cisco endpoint to a conference on RMX using MPMx media cards. Issue is resolved by stopping and resending the content.	V8.4.2
BRIDGE-22285	Interoperability	After a RMX(X) is configured with 384kbps and AES encryption, and dialing out to an HDX being connected with Siren22, packet loss occurs constantly in the transmit direction from HDX to RMX.	V8.5.3
BRIDGE-21323	IVR	DTMF in calls to a Virtual Entry Queue are not received by RMX using MPMx media cards.	V8.5.3HF
BRIDGE-21194	IVR	When connecting via a SIP gateway to a cascaded conference running on a Collaboration Server 2000, and pressing the '#' key, the IVR audio message to await chairperson presence is heard, instead of request to enter the chairperson password.	V8.5.4
BRIDGE-22002	IVR	IVR plays invalid password message to un-registered SIP participants. Also occurs when the password is contained within the dial string, when using RMX with MPM+ media cards.	V8.5.3
BRIDGE-22456	IVR	Cannot delete participant from the Entry Queue when using RMX with MPM+ media cards.	V8.5.3
BRIDGE-22543	IVR	Participants' endpoints do not forward the "Invite Participant" DTMF code in ISDN calls on RMX Appliance and Virtual MCUs.	V8.5.3
BRIDGE-21732	MPM Card	MPMRx card undergoes DSP crash and reboot.	V8.5.3
BRIDGE-21944	MPM Card	An MPMRx card crash, likely resulting from audio/video UDP ports indicated by the logs as not released following conference end.	V8.5.3 HF
BRIDGE-21762	MPM Card	MPMx media card undergoes unexpected powers off problem.	V8.5.2
BRIDGE-21647	MPM Card	After repeatedly moving different participants from different permanent conferences to different cascading conferences, core dump occurs and MPMx media card crashes.	V8.5.3HF

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Corrections**

Issue ID	Category	Description	Detected in Version
BRIDGE-22652	Partners - Microsoft	When a Room System joins a RealConnect call initially having had 2 LifeSize Room Systems connected via Lync AVMCU, from which 1 of the initial LifeSize Room Systems has disconnected, twitching video is experienced when using RMX Virtual Edition MCU.	V8.6.2
BRIDGE-21293	Partners - Microsoft	Lync 2013 clients always send video at 320x176 resulting in poor quality video received by RMX using MPMx media cards.	V8.5.3
BRIDGE-21312	Partners - Microsoft	RMX(X) system cannot establish RealConnect call from HDX to Lync meeting room successfully.	V8.5.2
BRIDGE-21436	Partners - Microsoft	Audio level transmitted to Lync 2013 AVMCU is lower than audio level transmitted to Lync participants when using RMX with MPM+ media cards.	V8.5.3
BRIDGE-21845	Partners - Microsoft	In a RealConnect conference, when Lync participant mutes audience, garbled audio is heard by HDX and RPD clients.	V8.5.3
BRIDGE-21312	Partners - Microsoft	RMX(X) system cannot establish RealConnect call from HDX to Lync meeting room successfully.	V8.5.2
BRIDGE-21891	Partners - Microsoft	In RealConnect conference, AVMCU isn't connected to RMX(Rx) and remains in connecting status. RMX generates core dump file.	V8.5.3
BRIDGE-22058	Partners - Microsoft	After RMX(X) is upgraded to V8.5.4.70, Skype for Business client cannot receive inbound video when dialing into RMX directly and remotely.	V8.5.4
BRIDGE-22548	Reservations	When a participant is added in different reservations with time conflict, no warning message is reported.	V8.5.4
BRIDGE-21467	Reservations	Reservation conference changes to suspended after RMX(X) system reboot.	V8.5.3
BRIDGE-21352	Reservations	Changing the end time of a reserved conference with RMX Manager doesn't work on RMX(X) system.	V8.5.3
BRIDGE-21321	Resource Capacity	RMX 4000 reports 4 ports in use while it is idle.	V8.5.3HF
BRIDGE-22223	Resource Capacity	Audio calls transferred from a VEQ to a Mixed-Mode VMR consume video resources instead of audio resources in conference on RMX using MPMx, MPMx, MPM+ media cards.	V8.5.2
BRIDGE-21307	RMX Manager	When using RMX Manager, laptops could not return to normal operation after entering sleep mode.	V8.3
BRIDGE-21890	Security	Exchange integration configuration cannot be updated on RMX Appliance and Virtual Edition MCUs.	V8.6.2
BRIDGE-21830	Security	Cisco devices receive Content from RMX before they have entered the conference passcode, on RMX with MPMx media cards.	V8.3

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Corrections**

Issue ID	Category	Description	Detected in Version
BRIDGE-22565	Security	NTP security vulnerabilities on RMX(X) system.	V8.5.4
BRIDGE-22005	SIP	AVC SIP endpoints always connect as legacy endpoints on RMX using MPMx media cards, on RMX1800, and on Virtual Edition MCU.	V8.5.10
BRIDGE-22056	SIP	Conference terminated and core dump is generated in conference with SIP recording link, using RMX with MPMRx media cards.	V8.7
BRIDGE-22520	Video	When connecting to RMX(X) with SIF, RPD shows people video with pillar box, that is black bar on left and right side.	V8.5.4
BRIDGE-22526	Video	Video from Lync 2010 clients freezes on RMX 1500 shortly after joining RealConnect VMR. Users have to stop and restart video.	V8.5.3
BRIDGE-22751	Video	In a multi-point call, some codecs show a pink stripe on the far end video.	V8.5.3
BRIDGE-21711	Video	HDX endpoint is disconnected from SVC/AVC conference on RMX using MPMRx media cards.	V8.5.3

**Corrections between Version 8.5.3 and Version 8.5.4****Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.4 - Corrections**

Issue ID	Category	Description	Detected in Version
BRIDGE-20669	Audio	When Audio-Only participants dial in via ISDN into a conference (RMX(X), the SIP participants cannot hear the audio but H.323 participants can.	V8.5.2
BRIDGE-20885	Cascading	Using Collaboration Server (MPM+), Audio SIP calls from IBM Sametime Client to DMA VMR fail to escalate from audio to video.	V8.5.6
BRIDGE-20853	Conferencing	Using Collaboration Server (MPMRx), conference cannot be created when System Flag MULTIPLE_SERVICES = YES. An error message: Failed to add Conference:Failure Status is generated.	8.5.3
BRIDGE-20785	Content	Content freezes in a conference running on an RMX 4000.	V8.4.2
BRIDGE-20243	General	RMX4000 unexpectedly restarts.	V8.3
BRIDGE-20450	General	After disabling Message Overlay in a running conference (RMX(X), then disconnecting and then reconnecting the endpoint, the Message Overlay continued to display.	V8.5.2

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.4 - Corrections**

Issue ID	Category	Description	Detected in Version
BRIDGE-20245	Conferencing	Calls to MCU (RMX(X) failed to connect properly and logs show 'Socket is blocked' error.	V8.5.2
BRIDGE-20580	Conferencing	Participants disconnected from conference with RMX(X) media card.	V8.5.2
BRIDGE-20592	Video	Video capacity changes and disconnections from DMA occur on RMX (MPMRx).	V8.5.2
BRIDGE-20626	General	RMX 2000 with RMX(X) media card experiences high CPU usage and crashes needing reboot.	V8.5.3
BRIDGE-20649	General	PSTN dial-in to VMR conference running on RMX(X) cannot hear other sites while other sites can hear alright.	V8.5.3
BRIDGE-20266	General	Core dump rendered it impossible to add or disconnect existing users to a conference (RMX(X)).	V8.4
BRIDGE-20523	General	In a VMR conference with RMX(X) media card, calls are Intermittently dropped when 120 endpoints are connected.	V8.4
BRIDGE-20333	General	Some conferences (RMX)(X) remain active and cannot be removed after the call has ended.	V8.5.2
BRIDGE-20250	General	On Collaboration Server, (MPMx), incorrect status of RMX Shelf Management port is reported. Shm shows Speed Duplex: 10 Half Duplex even if LAN Port is connected.	V8.5.2
BRIDGE-20966	General	Collaboration Server crashes and drops all video calls.	V8.5.4
BRIDGE-20251	General	Conference (RMX)(X)) cannot be deleted.	V8.5.2
BRIDGE-20247	General	MCU drops calls, reboots and records high CPU utilization in the Faults pane.	V8.5.2
BRIDGE-20242	General	RMX experiences Internal MCU reset and core dump (RMX(X)).	V8.5.2
BRIDGE-20310	General	RMX4000 with MPMx media card rebooted unexpectedly.	V8.5.2HF
BRIDGE-20812	General	On an MCU with RMX(X) media card, registration to the DMA and Lync server is intermittently lost requiring a reboot to restore services.	V8.5.3
BRIDGE-20883	General	Using Collaboration Server (MPMRx), conference cannot be created when System Flag MULTIPLE_SERVICES = YES. An error message: Failed to add Conference:Failure Status is generated.	V8.5.3
BRIDGE-20415	General	Virtual Meeting Room (VMR) duration cannot be changed correctly.	V8.5.3

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.4 - Corrections**

Issue ID	Category	Description	Detected in Version
BRIDGE-20840	Interoperability	In a conference through DMA VMRs on an RMX 4000 (MPMx), audio distorts when a Cisco CP-6921 and a CP-79xx SIP desk phone attempts to transfer the conference to another phone.	8.5.3
BRIDGE-20244	Interoperability	Codec offering from Collaboration Server (MPMx) for OPUS codec is set with invalid ptime value of 1 and is not recognized by CUCM.	V8.5.2
BRIDGE-20840	Interoperability	In a conference through DMA VMRs on an RMX 4000 (MPMx), audio distorts when a Cisco CP-6921 and a CP-79xx SIP desk phone attempts to transfer the conference to another phone.	V8.5.3
BRIDGE-20798	Interoperability	Entry queue freezes following endpoint failure to disconnect in a conference running on MCU with RMX(X) media card.	V8.5.3
BRIDGE-20368	Interoperability	When using Collaboration Server (MPMRx), all participants lose audio in DMA VMR.	V8.5.3
BRIDGE-20778	IVR	Participant connected via a Virtual Meeting Room (VMR) in a conference running on an RMX(X) media card is shown as 'Disconnecting (IVR)' but fails to terminate the call.	V8.5.3
BRIDGE-20311	MPM Card	MPMx card underwent full FPGA recovery after keepalives failed on all DSPs.	V8.5.2HF
BRIDGE-20395	MPM Card	MPM(Rx) media card not responding.	V8.5.2HF
BRIDGE-20812	Partners - Microsoft	On an MCU with RMX(X) media card, registration to the DMA and Lync server is intermittently lost requiring a reboot to restore services.	
BRIDGE-20632	Partners - Microsoft	MCU is unable to derive Lync Edge Services (RMX(X)).	V8.5.3
BRIDGE-20337	Partners - Microsoft	RealConnect call only works once with subsequent Lync calls failing after Collaboration Server (MPM+) reboot.	V8.5.4
BRIDGE-20252	Resource Capacity	RMX1500 with MPMx-Q card shows Insufficient resources.	V8.5.2
BRIDGE-20376	RMX Manager	Problem encountered in attempting to switch lecturer in Conference Properties window in RMX Manager in conference with RMX(X).	V8.5.2
BRIDGE-20249	RMX Manager	RMX Manager displays incorrect number of voice ports available versus what is allocated.	V8.5.2
BRIDGE-20434	Security	Using Collaboration Server (MPMRx), Root Certificate fails to upload. Failure message: Unable to find CN in certificate.	V8.5
BRIDGE-20240	Upgrade Process	MCU displays a Low Processing Memory alarm after software upgrade from Collaboration Server (RMX) 7.8 to 8.2 with RMX(X) card.	V8.5.2

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.4 - Corrections**

Issue ID	Category	Description	Detected in Version
BRIDGE-20383	Video	Using Collaboration Server (MPMRx), video artifacts are observed in ATX Room Systems when 20 Room Systems are connected in a RPRM pooled conference.	V8.4
BRIDGE-20520	Video	Endpoints will sometimes not receive video from the MCU when the high profile threshold setting for 720p30 is set below the default value and the line rate of the conference is higher than the high profile threshold setting.	V8.5.3
BRIDGE-20596	Video	Whenever a participant disconnects from a conference (RMX(X), upon reconnecting, that participant's framing reverts to default Conference Level framing (1x1 Auto).	V8.5.3
BRIDGE-21094	SIP	After SIP registration completed, due to the inappropriate timer, Collaboration Server displays SIP registration and software asserts errors, and then followed by registration OK.	V8.5.3HF
BRIDGE-21100	General	Conference profile does not change to correct line rate if Video Quality is set to Sharpness and Resolution is set to HD720p on Collaboration Server (RMX) 2000 (MPMRx).	V8.5.3HF
BRIDGE-21083	General	Four ports reported to be in use while Collaboration Server (RMX) 4000 (MPMx) is idle.	V8.5.3
BRIDGE-21059	Cascading	Auto Scan stops functioning during a Cascading Conference on Collaboration Server (MPMx).	V8.5.3
BRIDGE-21050	Conferencing	Collaboration Server is unable to receive DTMF in calls to a Virtual Entry Queue.	V8.5.3
BRIDGE-21019	Interoperability	In conference running on RMX2000 people video bandwidth stays decreased after content is stopped from Sony PCS-XG80 endpoint.	V8.5.3HF
BRIDGE-20970	Video	When toggling between the auto layout and a customization layout in Video Settings during the conference, the layout modification does not take effect.	V8.6.1
BRIDGE-20241	General	All participants are disconnected by Collaboration Server.	V8.5.2

## Corrections between Version 8.5.2 and Version 8.5.3

### Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.3 - Corrections

Issue ID	Category	Description	Detected in Version
BRIDGE-18441	General	System is exposed to attacks running arbitrary code using current user permissions, due to a bug in one of the standard libraries.	V8.5.2
BRIDGE-18774	General	Collaboration Server faults list indicates Power-off problems.	V8.4.2
BRIDGE-18680	Conferencing	Participants could not be added to a conference on a Collaboration Server with MPMx media card, and were indicated as Idle.	V8.4
BRIDGE-18621	IVR	Failed Recording IVR message is erroneously played following chairperson stopping the recording via DTMF.	V8.5

## Corrections between Version 8.5 and Version 8.5.2

### Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.2 - Corrections

Issue ID	Category	Description	Detected in Version
BRIDGE-17979	Audio	Buzzing audio heard on local endpoint when call is made to Cisco SX20 through Collaboration Server and Cisco ISDN gateways.	V8.4
BRIDGE-16345	Audio	When forced to use SirenLPR Mono or SirenLPR Stereo Audio Codec and dialing out from RMX 1800 to HDX and GS endpoints, the actual Audio Codec in use is Siren22 Mono or Siren22 Stereo.	V8.4
BRIDGE-18051	Capacity	When making H.323 calls through DMA VMRs, numerous assertion failures are reported; in the meantime, call failures occur. Without any conference load, RMX 4000 crashes and fails to start up after being rebooted. Users cannot access RMX 4000 through RMX Manager, SSH, or Ping.	V8.5
BRIDGE-17761	Capacity	The weight of maximum conference resolution is multiplied by the number of participants in the reserved template, and the multiplied weight is more than the license the user has.	V8.4
BRIDGE-17928	Cascading	When participants calling through external cascaded Collaboration Server V7.8 into the default EQ of the Collaboration Server V8.2, the participants fail to connect.	V7.8
BRIDGE-16699	Cascading	Cannot build cascading link successfully when entering the # symbol as the separator between EQ ID and Conference ID in the dialing string.	V8.5
BRIDGE-16731	CDR	CDR Core Dump causes endpoint disconnection.	V8.5



**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.2 - Corrections**

Issue ID	Category	Description	Detected in Version
BRIDGE-17945	General	Cannot delete the conference when the last participant is in the process of disconnecting.	V8.4
BRIDGE-17881	General	When all endpoints in the conference are H.263 endpoints, calls fail and cards reset on RMX 4000.	V8.5
BRIDGE-17857	General	Core dump is triggered by the Insufficient Resources alarm.	V8.4.2
BRIDGE-17626	General	On the GS550, the actual effect of video and audio is perfect, but the packet loss percentage is incorrectly shown as 99%.	V8.4.2
BRIDGE-17563	General	The resource allocation failure during dial-out from PCO VMR causes Gatekeeper service fault.	V8.2
BRIDGE-16602	General	When dialing from an HDX endpoint into a conference in the VSW conference mode through EQ, Collaboration Server core dumps.	V8.5.1
BRIDGE-16556	General	The title of the invalid flag notification on RMX 1800 erroneously shows product name as "RMX" instead of "RealPresence Collaboration Server 1800".	V8.5
BRIDGE-16513	General	RMX 1800 core dumps during an ongoing Prefer TIP CP conferences. Endpoints remain connected to the conference.	V8.5
BRIDGE-16476	Hardware	RMX 1800 reboots incorrectly because the UDP port is occupied.	V8.5
BRIDGE-17931	Interoperability	Unable to resume calls after being placed on hold from a Cisco phone.	V8.5
BRIDGE-17757	Interoperability	When the conference party is disconnected through a cascading link, the crash occurs after an unexpected reboot	V8.5
BRIDGE-16554	Interoperability	When a hot backup is triggered on Master RMX 1800, and a conference dials out from Slave RMX 1800 to an H.323 endpoint, the endpoint connects first, then disconnects after several minutes.	V8.5
BRIDGE-16479	Interoperability	When dialing out from RMX 1800 to HDX and GS550 endpoints, the negotiated call rate between RMX 1800 with GS550 is lower than 512Kbps.	V8.5
BRIDGE-15723	Layout	When several endpoints with different aspect ratios are connected to the same conference, some endpoints always don't display the black strips in the filmstrip layout correctly.	V8.5
BRIDGE-17542	License	RMX 1500 lacks support of SMB licensing mechanism by intermediate software versions between RMX V7.6.1 and RMX V8.5.2, users cannot upgrade from RMX V7.6.1 to later software versions. See detailed information in <a href="#">RMX 1500 SMB Configuration</a>	V8.4
BRIDGE-16732	Log Analyzer	Core Dumps for Auditor.	V8.5

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.2 - Corrections**

Issue ID	Category	Description	Detected in Version
BRIDGE-17766	Meeting Room	If the Meeting Room settings are changed, the Display Name and ID of the Meeting Room will change automatically.	V8.4.1
BRIDGE-17539	MPM Card	The MPMx Media Card is disconnected during large conference; therefore dropping participants from the conference.	V8.4.2
BRIDGE-16542	MPM Card	The MPMx Media card is stuck in startup after software upgrade.	V8.5
BRIDGE-18067	Partners-Microsoft	Collaboration Server fails to launch scheduled conferences.	V8.4.2
BRIDGE-17878	Partners-Microsoft	Lync call fails after upgrade.	V8.5
BRIDGE-16391	QoS	Though QoS for SVC is enabled, lost packets are not marked.	V8.5.1
BRIDGE-17941	Reservation	Cannot schedule a conference reservation if the name contains more than three words, and includes a space.	V8.1.7
BRIDGE-18072	Software Version	Unable to delete conference after upgrading to V8.5.	V8.5
BRIDGE-16568	Software Version	Software alignment fails when software version on CNTL 2000/4000 cards mismatches that of the Collaboration Server 2000/4000 respectively, where the Collaboration Server used version 8.5.	V8.5
BRIDGE-16631	SVC	When connecting to an SVC Only conference on RMX 1800, the endpoint receives frozen People video cells except to the speaker's video cell.	V8.5
BRIDGE-17763	System Flag	Length of SIP_CONTACT_OVERRIDE_STR System Flag is limited to 120, which is insufficient.	V8.5
BRIDGE-18116	UI	RMX 2000 with MPMRx media cards displays an incomplete Video/Voice Port Configuration dialog.	V8.5
BRIDGE-17622	Video	When dialing into a CP conference running at 1920Kbps through VVX endpoint, the video presence on the VXX is abnormal; specially, the cut edges at left and right and the black borders at top and bottom.	V8.5.1
BRIDGE-17531	Video	Collaboration Server, when using the conference profile with Video Quality set as Motion, sends video with 30fps -- but not 60fps-- to the Group system.	V8.4.2
BRIDGE-16723	Video	In some cases user will see unsynchronized video/audio.	V8.4.2

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.2 - Corrections**

Issue ID	Category	Description	Detected in Version
BRIDGE-16669	Video	The Cisco TIP endpoint receives green cells and artifacts on screens from the RMX 1800 that is under load.	V8.5
BRIDGE-16635	Video	In Terminal Command String (TCS) exchange between DMA and Collaboration Server, some video Codec capabilities are missing after several hold and resume operations.	V8.5

**Corrections between Version 8.4 and Version 8.5****Collaboration Server (RMX) 1500/1800/2000/4000 V8.5 - Corrections**

Issue ID	Category	Description	Detected in Version
BRIDGE-14412	Audio	Imperfect audio, when enabling auto muting of noisy participants, in high load conditions, involving numerous participants connecting with bit rates over 4M.	V8.4
BRIDGE-14331	Content	When more than 10 endpoints connect to a conference with Content Transcoding enabled, and Content Rate greater than 128kbps, Content artifacts occur.	V8.4
BRIDGE-10815	Content	In an encrypted AVC only conference set to Encrypt When Possible, using AS SIP with 2 Group Series endpoints connecting over SIP, the Group Series endpoints do not receive content.	V8.3
BRIDGE-14275	General	Significant packet loss is incurred along with video/audio issues, when, in two simultaneous conferences running on the same media card, 160 SVC (100 + 60) participants are connected.	V8.4
BRIDGE-14199	General	When using MPMRx cards (RMX 2000/4000) or Collaboration Server 1800, the maximum number of participants in an SVC Only conference or an SVC/AVC Mixed Mode conference is limited to 100.	V8.4
BRIDGE-13690	General	On a mixed AVC\SVC dial-out conference, if an administrator forces the call to connect at 1080p, participants will not connect.	V8.4
BRIDGE-12820	General	During upgrades from RMX v8.3 to v8.4, users may receive a “no connection with switch” error when trying to access the hardware monitor via EMA\RMX manager. The system functions normally. Reset resolves the issue.	V8.4
BRIDGE-13937	Hardware	ISDN card displays major status indication on Hardware Monitor.	V8.4
BRIDGE-14263	Hot Backup	On Collaboration Server (RMX) 1800, when switching over from master to slave and then back to master, call can not be established.	V8.4

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5 - Corrections**

Issue ID	Category	Description	Detected in Version
BRIDGE-13591	Interoperability	Sony PCS-XG80 and XG-100 endpoints do not receive content while in a Collaboration Server (RMX) 1800 or VE call.	V8.4
BRIDGE-13518	Interoperability	When using specific versions of Group Series endpoints, connecting as SVC to a Mixed Mode (SVC/AVC) conference, the Group Series endpoint will, rarely, not see the AVC endpoints.	V8.4
BRIDGE-13107	Interoperability	Cascade between RMX1800 to MSFT AV MCU will not work if the non-default XML API mode is set via system configuration flag.	V8.4
BRIDGE-14466	ISDN	When replacing RTM-ISDN-12-ports card with RTM-ISDN-9-PRI-ports card (and vice versa), the number of PRI ports is not updated to match the new card.	V8.4
BRIDGE-14289	Partners - Microsoft	On MPM-Rx mixed SVC/AVC conference, with both Lync and SVC clients connected, video may not resume after several Stop/Resume video actions on the Lync client.	V8.4
BRIDGE-13622	Partners - Microsoft	Lync registered Edge endpoints have packet loss and poor video during RMX conference. Hold and resume intensifies the poor video performance.	V8.4
BRIDGE-13499	Partners - Microsoft	Lync mobility client will not connect in a dial out scenario.	V8.4
BRIDGE-13470	SIP	RMX dial-out fails when SIP device authentication is enabled in DMA.	V8.4
BRIDGE-12663	SIP	Hot backup: SIP participants cannot reconnect after switch over between master and slave RMXs.	V8.4
BRIDGE-14359	Video	Rarely, a participant connecting to a mixed AVC/SVC HD1080p60 conference may be connected as Audio Only.	V8.4

**Known Limitations****Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Known Limitations**

Issue ID	Category	Description	Found in Version	Workaround
BRIDGE-22055	Recording	A CP/mixed conference, with a SIP recording link, and running on Collaboration Server 4000 with MPMRx media cards, is terminated with a core dump, following dial-in to the conference from an endpoint.	V8.7	
BRIDGE-6345	Audio	AVC participant Content audio is also muted by microphone mute setting when dialing into SVC/AVC Mixed mode conference.	V8.1	

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Known Limitations**

Issue ID	Category	Description	Found in Version	Workaround
BRIDGE-18482	Audio	Cut audio when ENABLE_SELECTIVE_MIXING system flag is set to YES.	V8.5	Set ENABLE_SELECTIVE_MIXING system flag value to NO.
BRIDGE-16529	Audio	G.722.1 1K audio codec fails negotiation over H.323 but not over SIP	V8.5	
BRIDGE-16334	Audio	When enabling NoiseBlock feature, audio cuts is always noticed. NoiseBlock option is disabled to avoid business interruption, by setting flag ENABLE_SELECTIVE_MIXING to NO.	V8.5	
BRIDGE-16310	Audio	Distorted audio from Cisco TX9000 endpoint to RPIS endpoint, in a Prefer-TIP Conference.	V8.5	
BRIDGE-15529	Audio	Cluttered audio in conference, using default video profile, on Collaboration Server 4000 with MPMRx media cards, following ISDN dial-out over H.320 to LifeSize Team220 and Express220 endpoints.	V8.5	
BRIDGE-16334	Audio	The NoiseBlock feature malfunctions during audio cuts.	V8.5	
BRIDGE-17309	Audio	On dialing-in to a VMR from a VVX endpoint and then transferring the call to HDX, the participant can listen to the conference but other participants are unable to hear the HDX audio.	V7.8.0	
BRIDGE-17165	Audio	Audio from EX90 endpoint ceases after session refresh (15 minutes after connection). Endpoint is registered to VCS and connects to VMR via external IVR VEQ.	V8.3.2	
BRIDGE-478	Capacity	When there are more than one conference configured to "Video Quality Optimized" or H.323 running simultaneously, some dial-out participants cannot connect to a conference, receiving a "resource deficiency - 0" in the Call Disconnection Cause field in the endpoint Properties box.	V7.8.0	
BRIDGE-17352 / 16105	Capacity	In a Video Switching Conference on Collaboration Server (RMX) 1800, each video endpoint consumes one HD port irrespective of the Conference Line Rate.	V8.5	

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Known Limitations**

Issue ID	Category	Description	Found in Version	Workaround
BRIDGE-16108	Capacity	At times, RealPresence Collaboration Server 2000 with MPMx media cards disconnects participants from a mixed-mode conference, following full-load conditions, with 90 SVC endpoints at 1.5M bitrate and above, which caused high CPU usage.	V8.5	
BRIDGE-15894	Capacity	After creating four conferences on an RMX 4000 running an MPM-Rx card, some endpoints always fail to connect and the RMX fails to reach full capacity.	V8.5	
BRIDGE-15870	Capacity	Failed to connect more than 1 SVC and 16 AVC endpoints (instead of 1 SVC and 22 AVC endpoints) to a mixed mode non-encrypted conference on a Collaboration Server 1500 via an Encrypt-When-Possible DMA VMR.	V8.5	
BRIDGE-15627	Capacity	While the RMX 1800 is at full capacity, CISCO endpoints disconnect when media is not received from them for more than 20 seconds. Conference Profile: 'Prefer TIP', AVC-CP, 4Mbps, 'Encrypt when possible'. Connection: Virtual Meeting Room.	V8.5	
BRIDGE-14393	Capacity	Resource Capacity report for Lync/ICE participants in SD/CIF resolutions is not accurate. Resource Capacity report doesn't reflect that Lync/ICE SD and CIF consume 2 CIF (2/3 HD) resources.	V8.4	
BRIDGE-13788	Capacity	Failure to connect more than 193 HD AVC endpoints in a conference dialing in to two Virtual Meeting Rooms via DMA.	V8.4	
BRIDGE-16454	Cascade	Telepresence OTX slave connection status is "Connected with problem" when connecting via encrypted Entry Queue to encrypted, Prefer TIP, Virtual Meeting Room on DMA.	V8.5	Register unsecured.
BRIDGE-16005	Cascade	In a mixed AVC/SVC call via DMA to a Virtual Meeting Room, the cascade link always experiences a problem and as a result, no media is sent.	V8.5	
BRIDGE-15176	Cascade	With MPMx media cards In DMA environment, conferences configured for Call Forward When Busy (CFB) fail due to being divided amongst Collaboration Servers.	V8.5	
BRIDGE-442	Cascading	During a Cascaded conference, the cascaded link sometimes send a "need help" message to participants.	V7.8.0	

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Known Limitations**

Issue ID	Category	Description	Found in Version	Workaround
BRIDGE-9814	Content	A RealPresence Mobile client running on iOS connecting using SIP to an AVC only conference with the content profile set to H.264 Cascade and SVC Optimized cannot receive content.	V8.3	
BRIDGE-7884	Content	During a CP conference, Radvision Scopia XT1000 & XT5000 endpoints registered to the DMA and connected via SIP, share content over the video channel instead of the content channel.	V8.2	
BRIDGE-6519	Content	On a conference set to LPR and content, the CSS clients sends content to the RPD endpoint at 380Kbps, however the RPD negotiated content line rate settings should be set to 192 Kbps.	V8.1.7	
BRIDGE-20655	Content	Tandberg unable to share content after advertising baseline H.264 content in SDP.	V8.5.2	
BRIDGE-16312	Content	A Cisco single-screen TelePresence endpoint fails to share content in a Prefer-TIP conference, with Collaboration Server 1800 registered to DMA trunked to a CUCM (Cisco MCU). Other endpoints can share content normally.	V8.5	
BRIDGE-10974	Content	When an MXP 6000 using serial ISDN, an HDX 7000 using H.323, and a Vidyo Softclient connect using SVC to an RMX 1500 using a DMA 7000 and Vidyo Gateway and Vidyo Suite, the H.320 endpoint cannot share or receive content.	V8.1.4	
BRIDGE-17293	Content	Content cannot be shared when dialing-out from a CP only conference with content set to H.263 & H.264 to Tandberg Edge95 (MXP) endpoints over H.323.	V8.2	
BRIDGE-17065	Content	On a conference set to LPR and content, the CSS clients sends content to the RPD endpoint at 380Kbps, however the RPD negotiated content line rate settings should be set to 192 Kbps.	V8.1.7	
BRIDGE-13342	Content	On Collaboration Server VE, Content is not seen on Cisco H.323 endpoints registered with CUCM when working in TIP Video + Content Mode.	V8.4	Use Prefer TIP Mode.
BRIDGE-20810	Conferencing	Registration to DMA and Lync Server is lost intermittently on Collaboration Server 2000 (MPMx).	V8.5.3	Reboot RMX to restore services.
BRIDGE-16920	Conferencing	Collaboration Server using MPMx cards cannot dial out to an H.261 ISDN endpoint at bit rate exceeding 320Kbps.	V8.5	

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Known Limitations**

Issue ID	Category	Description	Found in Version	Workaround
BRIDGE-18091 RBIDGE-22709	Diagnostics	At times Web access to MCU is blocked due to antivirus policy.	V8.5.2	Log in though RMX Manager (though prevents Diagnostic mode).
BRIDGE-17297	Interoperatbility	During a CP conference, Radvision Scopia XT1000 & XT5000 endpoints registered to the DMA and connected via SIP share content via the video channel and not the content channel.	V8.5	
BRIDGE-17296	Interoperatbility	During a CP conference running at a line rate of 4MB, Tandberg 1700 (MXP) endpoints registered to a DMA fail to receive content from a Tandberg Edge95 (MXP) endpoint.	V8.2	
BRIDGE-17206	Interoperatbility	In a SVC Mode conference, Group Series and RealPresence Desktop endpoints dialing directly to an "Encrypt when Possible" VMR are connected Non-encrypted. When dialing via a Virtual Entry Queue they are erroneously connected Encrypted. Occurs when SIP Transport type is TCP.	V8.4	
BRIDGE-7540	Diagnostics	Diagnostic doesn't work when the system is not in Ultra Secure Mode. By design, Diagnostics Mode does not function when the RMX is in Ultra Secure Mode.)	V8.2	
BRIDGE-2098	FECC	In a 1920Kbps conference with three dial-out 1080p60 Mars endpoints, when using FECC to control Speaker's camera, the Far button with arrows and Zoom In/Out do not function.	V7.8.0	
BRIDGE-15263	FECC	Failure to implement Far-End Camera Control between two Cisco endpoints connected (over H.323) to CP conference on Collaboration Server 1800.	V8.5	
BRIDGE-6483	General	When PCM is enabled, after entering DTMF code *78, the PCM Password screen does not appear.	V8.1.7	
BRIDGE-626	General	When trying to control the conference using PCM via a virtual remote control, some of the PCM options cannot be selected.	V7.8.0	
BRIDGE-591	General	When selecting one of the last three colors from the Message Overlay color drop down menu, the color selection is not implemented during the conference.	V7.8.0	



**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Known Limitations**

Issue ID	Category	Description	Found in Version	Workaround
BRIDGE-556	General	When the RMX is registered with the Broadsoft server, a SIP to H.323 gateway call fails when dialing directly to the destination endpoint.	V7.8.0	Use the Gateway IVR routing method.
BRIDGE-538	General	A Sony PCS-G90 is unable to connect over H.323 to an encrypted conference running on RMX 1500.	V7.8.0	
BRIDGE-18426	General	On RMX 2000, Media Traffic Shaping doesn't work correctly - media traffic reaches around 160kbit/0.1 sec. The problem occurs every third time.	V8.5	
BRIDGE-16636	General	Conference ends with all its participants hanging out shortly after an endpoint joins the conference via a virtual meeting room (in DMA) while the conference is put on hold by its initiator.	V8.5	
BRIDGE-16115	General	In a CP conference with default video settings, the lecturer/auto-scan setting cannot be updated because the field is grayed out.	V8.5	
BRIDGE-15933	General	Rarely, with MPMRx media cards, SIP endpoint disconnects after being moved from 1Mbps CP conference to 384Kbps CP conference.	V8.5	
BRIDGE-15910	General	When using MPMRx media cards, running a 2Mbps conference, in AVC mode, using the Move to Conference feature may result in endpoints being disconnected.	V8.5	
BRIDGE-13704	General	Video freezes and audio fails when concurrently uploading a large file (more than 100MB).	V8.2	
BRIDGE-1176	General	QCIF resolution option is not listed in the Profiles, Video Quality, Maximum Resolution menu.	V7.8.0	
BRIDGE-1027	General	No CS baseline in the Comlog problems during RMX startup.	V7.8.0	
BRIDGE-9253	General	Site name displays (when it should not) on OTX and RPX endpoints when Telepresence mode is set to Auto and ITP_CERTIFICATION flag is set to true.	V8.2	
BRIDGE-16736	General	Only when new version installed on the CF card or SSD, several resets occur until the MCU is UP.	V8.5	
BRIDGE-16866	General	When selecting one of the last three colors from the Message Overlay color drop down menu, the color selection is not implemented during the conference.	V7.8.0	

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Known Limitations**

Issue ID	Category	Description	Found in Version	Workaround
BRIDGE-17311	General	After upgrading the RMX 4000 to version 7.7 and installing certificates they do not appear in the Certification Repository page. An RMX reset is required to update the Certification Repository page.	V7.8.0	
BRIDGE-10488	General	Audio and video in motion conference at 4Mbps on Collaboration Server (RMX) 1800 are more than five seconds out of sync on dial-in RealPresence Mobile and Realpresence Desktop endpoints.	V8.3	
BRIDGE-16736 / 16043	Hardware	New image installed on either the CF or SSD cards result in repeated system resets before reaching normal state.	V8.5	
BRIDGE-13146	Hardware	RMX2000 and RMX4000 do not prevent operation with MPMRx cards while old CNTL module is installed. RMX2000 does not prevent operation with MPMRx cards while old 700W power supply is installed.	V8.3Inc V8.4	
BRIDGE-10139	Hardware	Control board fails to boot, and requires reset, due to failure in recognition by some hardware elements following boot.	V8.1.7	Hard-reset system twice.
BRIDGE-9583	Interoperability	In an SVC/AVC mixed mode conference Realpresence Desktop SVC endpoint that dials in to Virtual Meeting Room to enter conference cannot see any other endpoints - dial in or dial out. Realpresence Desktop SVC endpoint can only see the first HDX endpoint which dialed in first, without its site name.	v8.3	
BRIDGE-9253/ 7454	Interoperability	Site name displays (when it should not) on OTX and RPX endpoints when Telepresence mode is set to Auto and ITP_CERTIFICATION flag is set to TRUE.	V8.2	
BRIDGE-793	Interoperability	When CTS 3000 connects as dial in through RealPresence DMA system, the Gathering Slide on CTS 3000 endpoint flickers and displays artifacts. Conference is CP, gathering enabled, TIP; Video &Content at 2560kbps, 1080p resolution with No Encryption.	V7.8.0	
BRIDGE-7885	Interoperability	During a CP conference running at a line rate of 4MB, Tandberg 1700 (MXP) endpoints registered to a DMA fail to receive content from a Tandberg Edge95 (MXP) endpoint.	V8.2	
BRIDGE-6560	Interoperability	ITP endpoint's Slave endpoints do not connect in RMX dial out call.	V7.8.0	

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Known Limitations**

Issue ID	Category	Description	Found in Version	Workaround
BRIDGE-433	Interoperability	When the RMX and HDX endpoints are registered with a CMA, after dialing out from an HDX endpoint a numerical error message appears.	V7.8.0	
BRIDGE-327	Interoperability	RSS 2000 Connection H.323 Link Status pane, E.164 column displays RMX Conference ID instead of E.164 data when recording RMX conference that is enabled to start recording immediately.	V7.8.0	
BRIDGE-18317	Interoperability	Media Traffic Shaping malfunctions in Collaboration Server 2000 with MPMx media card, and H.239 enabled in an HDX 6000 endpoint.	V8.5	
BRIDGE-19583	Interoperability	In a 2Mbps AVC-only conference running on an RMX 4000 (MPMRx), lip-sync issues occur after connecting several endpoints and setting the GS endpoint as speaker.	V8.5.3	
BRIDGE-16670	Interoperability	Bad quality video is exhibited for 2 seconds on CTS1300 endpoint following Halt / Resume cycle.	V8.5	
BRIDGE-16402	Interoperability	In a 2M mixed-mode, encrypt-when-possible conference (H.323), an RPM IOS endpoint disconnects after entering the conference via an IVR. However, SIP calls do not reproduce this issue.	V8.5	
BRIDGE-16306	Interoperability	On RMX 1800 and RMX with MPMRx, Group Series/HDX endpoints are not able to join DMA hosted Virtual Meeting Room call.	V8.5	
BRIDGE-16293	Interoperability	At times, a TX9000 endpoint is unexpectedly disconnected from a CP, Prefer-TIP, conference on Collaboration Server 1800, with 8 dial-in Cisco CUCM and endpoints and Polycom DMA and endpoints.	V8.5	
BRIDGE-16134	Interoperability	SIP call disconnects 1 minute after dialing-out to a RadVision XT endpoint from an RMX 1800.	V8.5	
BRIDGE-13773	Interoperability	Video on HDX endpoint freezes for a few seconds, occasionally, in SIP call from Cisco IP Phone CP-9971 via CUCM, and AcmePacket SBC	V8.3, V8.5	Hold/Unhold Cisco Phone unfreezes the video
BRIDGE-13638 / 13131	Interoperability	Radvision Scopia XT5000 client fails to connect via dial-out to a Meeting Room on Collaboration Server 1800.	V8.4	Use dial-in.
BRIDGE-10488	Interoperability	Unsynchronized audio and video in motion conference at 4Mbps on Collaboration Server (RMX) 1800 in dial-in RealPresence Mobile and Realpresence Desktop endpoints.	V8.3	

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Known Limitations**

<b>Issue ID</b>	<b>Category</b>	<b>Description</b>	<b>Found in Version</b>	<b>Workaround</b>
BRIDGE-16312	Interoperability	On RMX1800 single screen Cisco TelePresence systems cannot send content in Prefer TIP Conference.	V8.5	
BRIDGE-15935	Interoperability	Video on Lync 2013 clients using Collaboration Server VE freezes in calls to a VMR when a Lync Room System endpoint joins the VMR.	V8.5	
BRIDGE-15929	Interoperability	When using MPMRx media cards, Polycom VVX600 endpoint registered to CUCM connects with 'Connected With Problem' status to RMX conference with 'Prefer TIP' selected in the Profile. VVX600 endpoint registered with DMA connects successfully.	V8.5	
BRIDGE-17196	Interoperability	The Polycom CX500 and CX600 IP phones disconnect after joining a call via dial out from a meeting room created on RealPresence Collaboration Server (RMX) 1800 solution.	V8.4	
BRIDGE-17126	Interoperability	CTS endpoint disconnects from the conference after the performing hold and resume while the conference was locked/ secured by the conference chairperson.	V8.1.6	
BRIDGE-17122	Interoperability	RMX1800 VE connects with problems when dialing-in or dialing-out of a CP conference over H.323 to Cisco C Series endpoints.	V8.5	
BRIDGE-15627	Interoperability	While the RMX 1800 is at full capacity, CISCO endpoints disconnect when media is not received from them for more than 20 seconds. Conference Profile: 'Prefer TIP', AVC-CP, 4Mbs, 'Encrypt when possible'. Connection: Virtual Meeting Room.	V8.5	
BRIDGE-410	IP	VVX dial in participant's IPAddress/Phone field in Participants List field is listed as 0.0.0.0 instead of the VVX's actual IP Address or phone number.	V7.8.0	
BRIDGE-15931	ISDN	When using RMX 1800, Dial-out Cisco SX20 ISDN endpoint's status is always 'Connected With Problem' if the conference Profile is set to be 'Encryption Off'. SX20 endpoints receive audio and video, but are not seen in the Video Layout of the other participants.	V8.5	
BRIDGE-14827	ISDN	Any modifications to the ISDN Network Service requires Collaboration Server reset.	V8.1	
BRIDGE-14391	ISDN	ISDN endpoint cannot connect using G.722.1 16K audio protocol.	V8.4	
BRIDGE-14258	ISDN	Collaboration Server using MPMx cards cannot dial out to an H.261 ISDN endpoint at bit rate exceeding 320Kbps.	V8.4	

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Known Limitations**

Issue ID	Category	Description	Found in Version	Workaround
BRIDGE-13620	ISDN	When placing a call from ISDN to DMA VMR via S4GW and RMX Gateway which translates from H.323 to SIP, calls may not connect the first time.	V8.4	Reconnect.
BRIDGE-976	IVR	When two Avaya 1XC Softphone endpoints join a conference, the IVR Service "first to join conference" music continues to play as if there is just one person in the conference.	V7.8.0	
BRIDGE-387	IVR	In the IVR Services when replacing/changing a music file and clicking on Play, the music file does not start.	V7.8.0	
BRIDGE-329	IVR	When DTMF codes have been entered by the participants, the volume of the IVR Message may be suppressed or the message may be cut.	V7.8.0	
BRIDGE-17039	IVR	In the IVR Service after rebooting a Collaboration Server VE, the "enable welcome message" check box becomes unchecked and the welcome audio message is not played.	V8.1.7	
BRIDGE-1167	Licensing	After upgrading the RMX 4000 to version 7.7 and installing certificates they do not appear in the Certification Repository page. An RMX reset is required to update the Certification Repository page.	V7.8.0	
BRIDGE-447	MPM card	Two VSW conferences each with participants are all located on one MPMx card, when it is expected that each conference and its participants should be located on separate MPMx cards.	V7.8.0	
BRIDGE-18183	MPM Card	MPMRx media card fails to come up following an RMX 2000, with 1KW power supply, reset by pressing Turn Off and On immediately.	V8.5.2	Wait at least 3 seconds between Turn Off and Turn On.
BRIDGE-17807	MPM Card	MPMRx media card failure following upgrade to V8.5.	V8.5	
BRIDGE-15593	MPM card	After upgrade, MPMx card on system registered to MSFT Lync 2010 with ICE may get stuck on startup.	V8.5	
BRIDGE-14474	MPM Card	MPMRx card fails to startup when using generic RTM IP2000 card in RMX 2000.	V8.4	Perform system hard reset.
BRIDGE-14126	MPM Card	Rarely, following upgrade or downgrade between 8.3 and 8.4, systems with more than one MPMRx may experience Major "one DSP failure" alarm.	V8.4	Perform Rescue procedure.

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Known Limitations**

Issue ID	Category	Description	Found in Version	Workaround
BRIDGE-13130	MPM Card	"Card voltage problem" alarm resulting from removal of MPMRx media card with Normal status from RMX 2000 is not cleared when the media card is reinserted.	V8.3, V8.3 Inc	Restart system clears the alarm.
BRIDGE-16323	MPM Card	The maximum number of SVC participants per conference a single MPMRx card may handle is limited to 5 (60 conferences*5 participants).	V8.5	
BRIDGE-16895	MPM Card	At times, RealPresence Collaboration Server 2000 with MPMx media cards disconnects participants from a mixed-mode conference, following full-load conditions, with 90 SVC endpoints at 1.5M bitrate and above, which caused high CPU usage. Full faults list contains the message "Card in slot 2 rebooted successfully"		
BRIDGE-17198	MPM Card	"Card voltage problem" alarm resulting from removal of MPMRx media card with Normal status from RMX 2000 is not cleared when the media card is reinserted.	V8.3 Inc 1, V8.3	Restart system clears the alarm.
	MPM Card	MPMRx Media card crashes after operating at 100% capacity.	V8.5.10	
BRIDGE-948	Multilingual	The RMX Time menu option was not properly translated in Russian. The user interface in Russian displays the menu item for RMX Time, which does not contain the word, "RMX", although it is included for other languages,	V7.8.0	
BRIDGE-644	Multilingual	A number of fields in the RMX Manager and Web Client are not translated into Traditional Chinese	V7.8.0	
BRIDGE-300	Multilingual	When using the RMX Manager or Web Client in German, the text next to the dropdown for encryption options in the advanced tab of Conference Profile properties uses two lines. The second line is cut off.	V7.8.0	
BRIDGE-1609	Multilingual	Information Collector, when interrupted, displays Collection Info Status message in English in the Russian User Interface.	V7.8.0	
BRIDGE-1593	Multilingual	In the Profile Properties > Gathering Settings dialog box, some fields are displayed in English in the Russian User Interface.	V7.8.0	
BRIDGE-1490	Multilingual	In Hardware Monitor, Location Header and Card Location data are displayed in English in the Russian User Interface.	V7.8.0	

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Known Limitations**

Issue ID	Category	Description	Found in Version	Workaround
BRIDGE-11461	Multilingual	When the alert, "SSH is enabled" was translated into Chinese, the Chinese equivalent was, "Music file failed."	V8.3	
BRIDGE-1139	Multilingual	When using the RMX Manager or Web Client in any language other than English, the Send Certificate button in the Certificate Repository window is not translated into this language.	V7.8.0	
BRIDGE-16853	Multilingual	When the alert, "SSH is enabled" was translated into Chinese, the Chinese equivalent was, "Music file failed."	V8.3	
BRIDGE-2340	Network	Failed to remove first IP address on a list of NT server addresses.	V8.0	
BRIDGE-23122	Partners - Microsoft	After 6500 RealConnect calls, Buffer Overflow occurs followed by a Power Off Event resulting in a reset of the MPMx media card.	V8.5.10	
BRIDGE-2201	Partners - Microsoft	Call Admission Control (CAC) calls from HDX get disconnected after approximately 1 hour when both SIP_TCP_PORT_ADDR_STRATEGY and MS_KEEP_ALIVE_ENABLE System Flags are set to NO.	V7.8.0	Set both flags SIP_TCP_PORT_ADDR_STRATEGY and MS_KEEP_ALIVE_ENABLE to YES.
BRIDGE-16271	Partners - Microsoft	Video artifacts observed when Lync client connects via Lync 2010 in Lync 2013 environment with packet loss set to 5%.	V8.5	Connect directly via Lync 2013
BRIDGE-16238	Partners - Microsoft	Video appears with artifacts in a Lync 2010 client connected in a Lync 2013 environment via a Virtual Meeting Room (VMR) to a cascading conference (Polycom and Microsoft AV-MCU), with Lost Packet Recovery (LPR) threshold set to 5%.	V8.5	
BRIDGE-15764	Partners - Microsoft	An RMX registered to an Edge server takes 15 minutes to reconnect when the Edge server fails.	V8.5	
BRIDGE-15747	Partners - Microsoft	After disconnecting from an external Lync conference call, external Lync client users cannot reconnect to the call.	V8.5	
BRIDGE-1560	Partners - Microsoft	When a Lync client dials in using TCP only, the Channel Status > Advanced tab in the Participant Properties window shows it is connecting using UDP instead, even though in actuality connected using TCP.	V7.8.0	

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Known Limitations**

<b>Issue ID</b>	<b>Category</b>	<b>Description</b>	<b>Found in Version</b>	<b>Workaround</b>
BRIDGE-15593	Partners - Microsoft	Lync conferences disconnect following upgrade of Collaboration Server 2000, with MPMx media cards, and registration to Lync 2010.	V8.5	Perform hard reset
BRIDGE-15075	Partners - Microsoft	All conferences drop, when the Collaboration Server is connected to Lync via UDP, whereas a Lync client connects to the MCU via TCP during content sharing.	V8.2 Inc 1, V8.5	
BRIDGE-14043	Partners - Microsoft	Video is not received by any endpoints when connecting a large amount of RTV participants (Lync 2010 or Lync 2013 without DMA) to the same call,	V8.5	
BRIDGE-13934	Partners - Microsoft	The number of video Lync ICE participants is limited to 100. Beyond 100, participants are connected as audio-only.	V8.4	
BRIDGE-17174	Partners - Microsoft	Number of video Lync ICE participants is limited to 100. Beyond 100, participants will be connected as audio only participants.	V8.4	
BRIDGE-15272	Partners - Microsoft	When both Polycom HDX systems and RealPresence Group Series systems registered to Lync attend a conference held on Polycom RealConnect using the content gateway, users might not be able to see shared content.	V8.5	
BRIDGE-20446	Partners - Microsoft	RealConnect calls show two RMX (MPM+) participants on the AVMCU: One for the RealConnect Cascade; one for the CSS.	V7.2.2	
BRIDGE-16637	Partners- Microsoft	Sometimes, no video received from Lync on ipad/iphone when connected to a virtual meeting room on the Collaboration Server via a Lync Edge server.	V8.5	
BRIDGE-15768	Partners-Microsoft	When the ICE environment is changed to Microsoft in IP Network Services, Collaborations server core dumps following reboot.	V8.5	
BRIDGE-9637	Security	With Collaboration Server (RMX) 1800, TLS Calls to Radvision Scopia XT5000 room system initially connect but then disconnect after a few seconds.	V8.3	
BRIDGE-5937	SIP	SIP registration fails in an RMX conference running in ultra-secure mode, in auto configuration for IPv6 with OCSP on, and the IPv6 global responder URL specified.	V8.1.4, V8.3	
BRIDGE-15433	SIP	At times, following registration of Collaboration Server (2000/4000) to SIP proxy, the MCU does not properly restart following reset.	V8.5	



**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Known Limitations**

Issue ID	Category	Description	Found in Version	Workaround
BRIDGE-17295	SIP	SIP endpoints may intermittently disconnect after a conference has run for more than 30 minutes.	V8.2	
BRIDGE-17269	SIP	A RealPresence Mobile client running on iOS connecting using SIP to an AVC only conference with the content profile set to H264 Cascade and SVC Optimized cannot receive content.	V8.3	
BRIDGE-670	Software Version	Manual connection can take up to 30 seconds to begin in 2048kbps conference, with manual dial out to over 80 participants.	V7.8.0	
BRIDGE-6037	Software Version	On IPv6 configured RMX, when changing IPv6 Configuration Method from Manual to Auto (Stateless) for IPv6 only RMX, RMX the Internal System Configuration during Startup alarm is displayed with a duration of 10 minutes or longer after system start up.	V8.1.4	Use Manual IPv6 Configuration Method with IPv6.
BRIDGE-16374	Software version	After upgrade, Collaboration Server version 8.5 may spontaneously reboot.	V8.5	
BRIDGE-14475	Software version	Invalid System Configuration alarm is raised when downgrading from V8.4.0.383 to V8.2 and earlier versions.	V8.4	
BRIDGE-14010	Software Version	Downgrading from V8.4 to V7.6.1C may result in a media card in a Major alarm state.	V8.4	Soft reset.
BRIDGE-16815	Software Version	Manual connection can take up to 30 seconds to begin in 2048kbps conference, with manual dial out to over 80 participants.	V7.8.0	
BRIDGE-17224	Software Version	On Collaboration Server (RMX) 1800, DTMF Codes (Enable Roll Call, Disable Roll Call, Roll Call Review Names, Roll Call Stop Review Names, Invite Participant, Disconnect Invited Participant, Override Mute All) are missing from DTMF Codes dialog following upgrade from 8.1 to 8.4.	V8.1.8	
BRIDGE-18377	SVC	SVC endpoint outgoing Audio and Video streams use lower bitrates than expected in a mixed conference, when endpoint is connected via SIP.	V8.5.2	
BRIDGE-15880	SVC	On RMX1800, in SVC only mode, endpoint video freezes and audio ceases after extended period during ongoing conference.	V8.5	
BRIDGE-13843	SVC	Rarely SVC endpoint will not be able to share content on SVC only conference.	V8.4	Disconnect client and reconnect.

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Known Limitations**

Issue ID	Category	Description	Found in Version	Workaround
BRIDGE-12768	TCP	In a SVC Mode conference, Group Series and RealPresence Desktop endpoints dialing directly to an "Encrypt when Possible" VMR are connected Non-encrypted. When dialing via a Virtual Entry Queue they are erroneously connected Encrypted. Occurs when SIP Transport type is TCP.	V8.4	
BRIDGE-16318	TIP	Frozen video in both telepresence endpoints following hard reset performed right after joining a Prefer-TIP unsecured Virtual Meeting Room from a Virtual Entry Queue.	V8.5	
BRIDGE-13890	TIP	When TIP compatibility is set to "Video & Content", RP Immersive Studio does not receive video on its primary (center) screen.	V8.4	Use "Prefer TIP".
BRIDGE-13629	TIP	On a call set to TIP Video & Content mode some H.323 endpoints may not receive content.	V8.4	Use "Prefer TIP".
BRIDGE-18561	Traffic Shaping	Media Traffic Shaping malfunctions every third time in Collaboration Server 2000 with MPMx media card, and reaches 160 Kbits per 0/1 seconds.	V8.5	
BRIDGE-467	Upgrade	After upgrading from version 7.6.1.136 to 7.7.0.41, an activation key is not requested.	V7.8.0	
BRIDGE-18146	Upgrade	Upgrading from version 8.4 to version 8.5 takes more than one hour.	V8.5.2	
BRIDGE-9369	Video	In a 4096 kbps conference with site names and message overlay enabled, and whose Video Quality is set to Motion, the next on an HDX using 4CIF resolution saw stretched text while endpoints using other resolutions received correctly proportioned text.	V8.1.5	
BRIDGE-925	Video	When the Telepresence Mode is enabled in the Conference Profile, conferences are able to start even though the flag: "ITP_CERTIFICATION" is set to NO. This flag should disable Telepresence features in the Conference Profile.	V7.8.0	
BRIDGE-440	Video	Auto Scan does not work when Same Layout is active.	V7.8.0	
BRIDGE-16633	Video	With Collaboration Server (RMX) 1800, video out is occasionally lost in Mixed or SVC conferences. H.264 AVC endpoints display skin background. SVC endpoints display a black screen. Audio is good on both AVC and SVC endpoints.	V8.5	

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Known Limitations**

Issue ID	Category	Description	Found in Version	Workaround
BRIDGE-16114	Video	In encrypted conferences, video from the Polycom QDX endpoints may freeze.	V8.5	Restart the Polycom QDX and dial in again.
BRIDGE-15876	Video	With MPMx media cards, HDX video freezes on Radvision Scopia XT5000 endpoint. All endpoints and RMX are registered to the gatekeeper for AVC HD1080p conference, with Encryption and Motion selected. Problem does not occur when Sharpness is selected or when using MPMRx media cards.	V8.5	
BRIDGE-15625	Video	While the RMX 1800 is operating under high load, green artifacts are exhibited in the layout cell of any endpoint connected to the conference on Cisco endpoint when the endpoint does not send video.	V8.5	
BRIDGE-15549	Video	With MPMx media cards, bad quality video is exhibited for 2 seconds on CTS1300 endpoint following Halt / Resume cycle.	V8.5	
BRIDGE-15537	Video	LifeSize Team 220 and Express 220 endpoints fail to receive video in a live conference running on Collaboration Server 1800 over H.320.	V8.5	
BRIDGE-15307	Video	Distorted video of Gateway Series (GS) endpoints is viewed in DMA virtual meeting room, when GS endpoints are connected via SonusSBC (centralized SIP policy management).	V8.5	
BRIDGE-14043	Video	Video not received by any endpoints when connecting a large amount of RTV participants (Lync 2010 or Lync 2013 without DMA) to the same call.	V8.5	
BRIDGE-14021	Video	With Collaboration Server (RMX) 1800, video out is occasionally lost in Mixed or SVC conferences. H.264 AVC endpoints display skin background. SVC endpoints display a black screen. Audio is good on both AVC and SVC endpoints.	V8.5	
BRIDGE-13837	Video	If media over UDP mode is blocked, connection to the ICE server cannot be established	V8.4	
BRIDGE-10975	Video	VSX dialing in to MCU using SIP protocol sometimes shows black or frozen screen.	V8.3	Dial in using H323 protocol.

**Collaboration Server (RMX) 1500/1800/2000/4000 V8.5.10 - Known Limitations**

<b>Issue ID</b>	<b>Category</b>	<b>Description</b>	<b>Found in Version</b>	<b>Workaround</b>
BRIDGE-17276	Video	In a 4096 kbps conference with site names and message overlay enabled whose Video Quality is set to Motion, the next on an HDX using 4CIF resolution saw stretched text while endpoints using other resolutions received correctly proportioned text.	V8.1.5	
BRIDGE-17266	Video	VSX receives no video in SIP call registered to DMA.	V8.3	

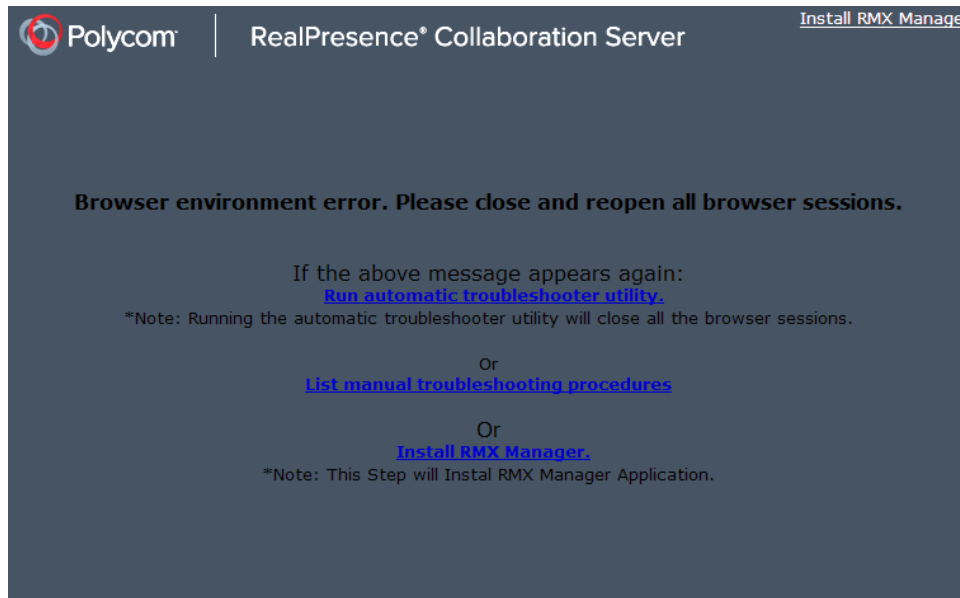
# RMX Web Client Installation - Troubleshooting Instructions

## Collaboration Server Web Client Installation - Troubleshooting Instructions



Use of the **RMX Web Client** is not recommended in **Maximum Security Environments**. Management using the **RMX Manager** is the recommended method.

If a **Browser Environment Error** occurs, close all the Internet Explorer sessions and reconnect to the MCU. If the problem persists, you can run the **Automatic Troubleshooting Utility** or perform the **Troubleshooting Procedures** manually.



The **Manual Troubleshooting Procedures** include several procedures that can be performed in order to solve the connection error. At the end of each procedure, check if you can connect to the MCU and if the problem persists, perform the next procedure.



**NOTE: Certificates in Secured Mode**

In **Secured Mode** (https://), the **DNS** name specified in the RMX's Certificate must correspond with that of the **DNS Server** used by the Client that is connecting to the RMX

The following troubleshooting procedures can be performed manually:

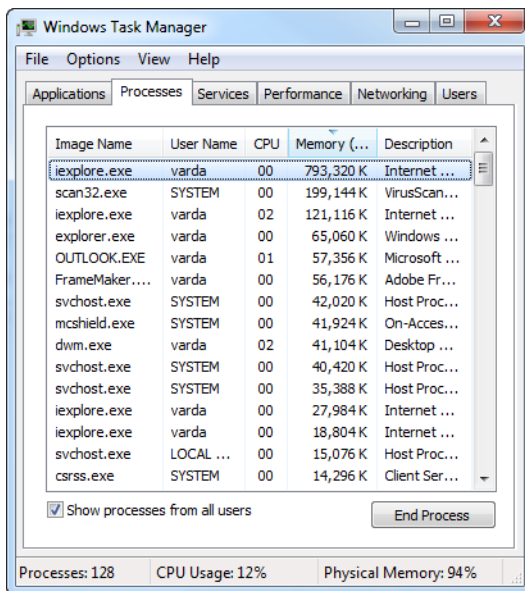
- Procedure 1: Ending all Internet Explorer Sessions
- Procedure 2: Deleting the Temporary Internet Files, Collaboration Server Cookie and Collaboration Server Object
- Procedure 3: Managing Add-ons Collisions
- Procedure 4: Add the Collaboration Server to the Internet Explorer Trusted Sites List
- Procedure 5: Browser Hosting Controls (Optional)

### Procedure 1: Ending all Internet Explorer Sessions

In some cases, although all the Internet Explorer sessions were closed, the system did not end one or several IE processes. These processes must be ended manually.

#### To end all Internet Explorer sessions:

- 1 Start the **Task Manager** and select the **Processes** tab.
- 2 Select an **ieexplore** process, and click **End Process**.



- 3 Repeat this process for all **ieexplore** processes that are currently active.
- 4 Close the **Windows Task Manager** dialog box.
- 5 Open the Internet Explorer and connect to the MCU.
- 6 If the problem persists, continue with **Procedure 2**.

### Procedure 2: Deleting the Temporary Internet Files, RMX Cookie and RMX Object

If at the end of Procedure 1 the error message is still displayed, and you cannot connect to the MCU, perform the following operations:

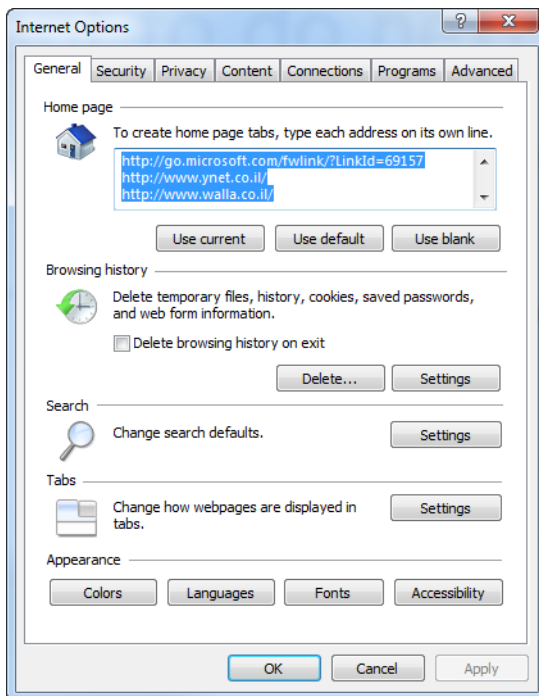
- Delete the Temporary Internet files

- Delete the RMX/Collaboration Server Cookie
- Delete the RMX/RMX ActiveX Object

## Deleting the Temporary Internet Files

### To delete the Temporary files:

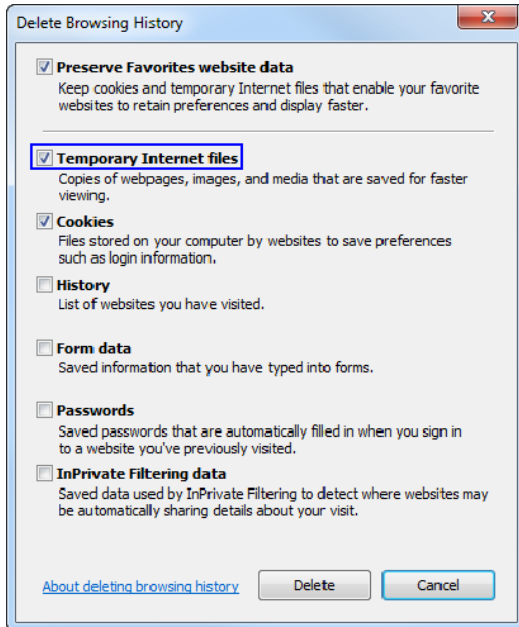
- 1 In the **Internet Explorer**, select **Tools > Internet Options**.  
The **Internet Options** dialog box opens.
- 2 In the **Browsing history** pane, click **Delete**.



The **Delete Browsing History** dialog box opens.

- 3 It is recommended to delete only the **Temporary Internet files**.

By default, the **Cookies** option is also selected. Clear it if you do not want to clear the cookies from your computer.



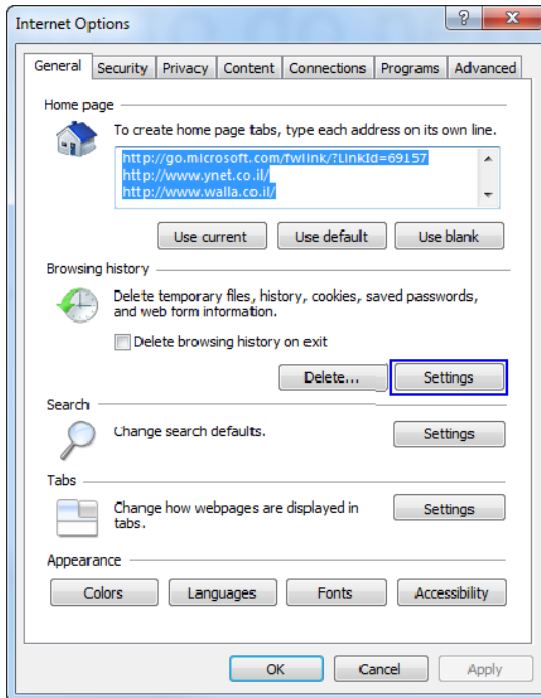
- 4 Click **Delete**.
- 5 When the process is complete, the system return to the **Internet Options** dialog box.



## Deleting the RMX/Collaboration Server Cookie

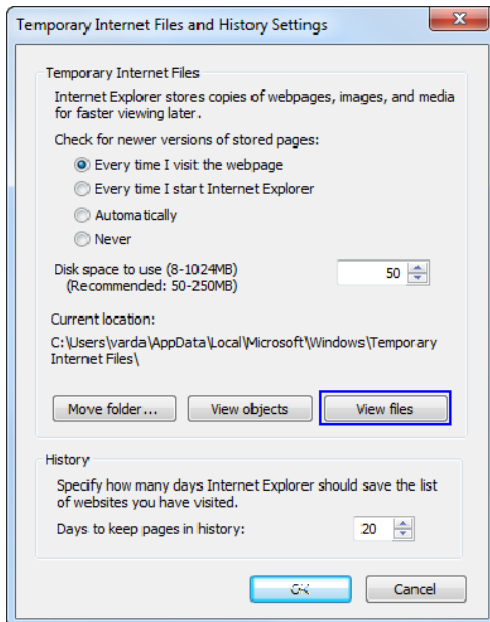
To delete the RMX Cookie:

- 1 In the **Internet Options** dialog box - **Browsing History** pane, click **Settings**.



The **Temporary Internet Files and History Settings** dialog box is displayed.

**2 Click View files.**

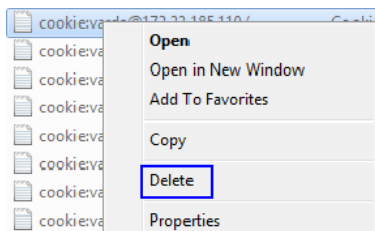


The Windows Explorer screen opens, listing **Windows Temporary Internet Files**.

**3 Browse to the RMX/ RMX cookie.**

The cookie is listed in the format: **cookie:user name@RMX/RMX IP address**. For example: **cookie:valerie@172.22.189.110**.

**4 Right-click the RMX cookie and click Delete.**



The system prompts for confirmation.

**5 Click Yes.**

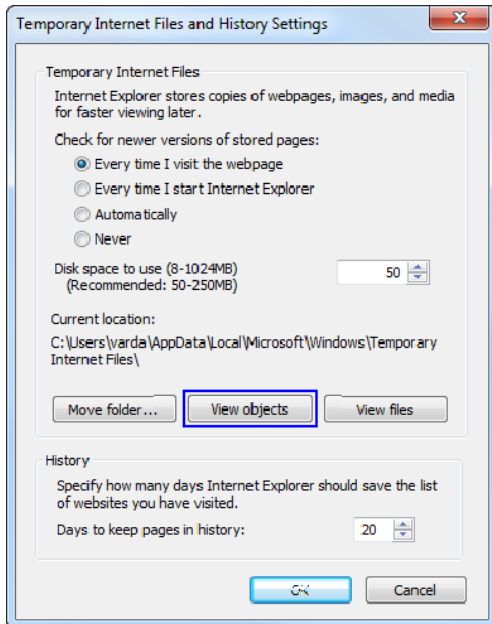
The cookie is deleted.

**6 Close the Windows Explorer screen.**

## Deleting the RMX/Collaboration Server ActiveX Object

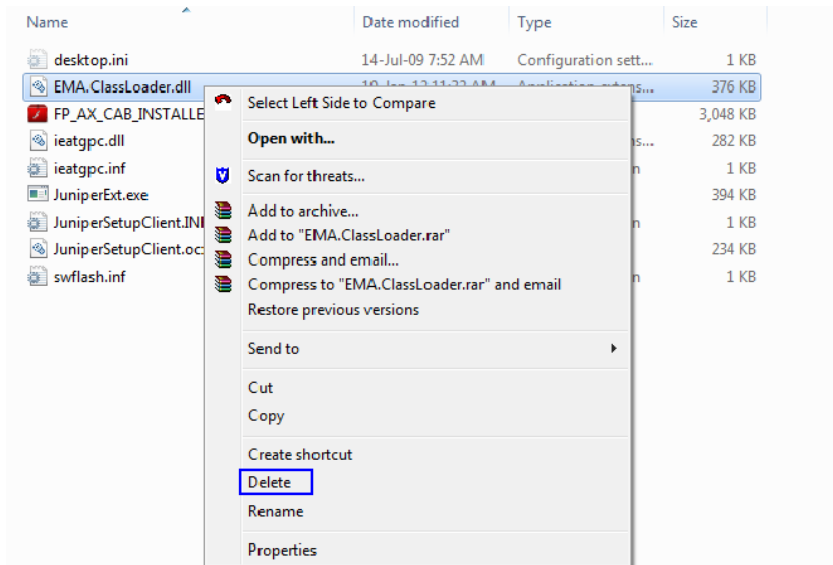
To delete the RMX/RMX ActiveX Object:

- 1 In the **Temporary Internet Files and History Settings** dialog box, click **View objects**.



The Windows Explorer screen opens, listing the Windows **Downloaded Program Files**.

- 2 Right-click the **EMA.ClassLoader.dll** and then click **Delete**.



The system prompts for confirmation.

- 3 Click **Yes**.  
The RMX object is deleted.
- 4 Close the Windows Explorer screen.
- 5 In the **Temporary Internet Files and History Settings** dialog box, click **OK**.
- 6 In the **Internet Options** dialog box, click **OK** to close it.
- 7 Close the Internet Explorer session and reopen it.
- 8 Connect to the RMX.

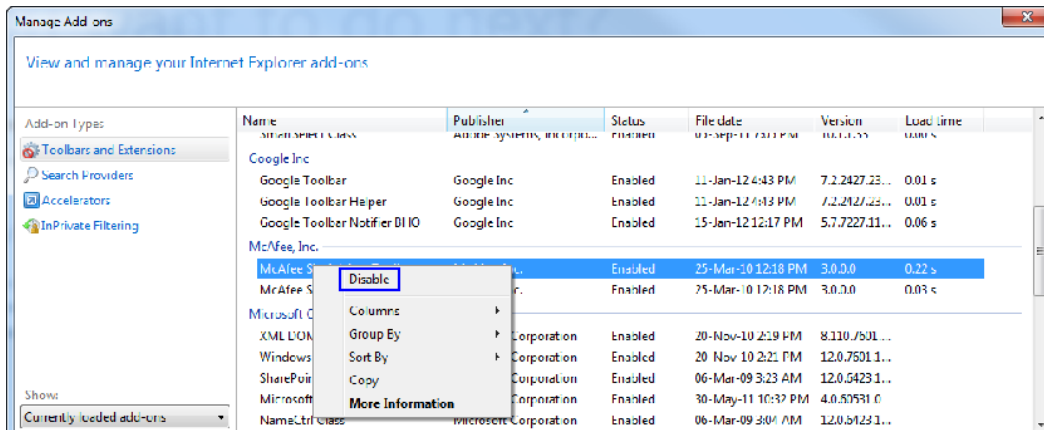
If the problem persists, continue with Procedure 3.

### Procedure 3: Managing Add-ons Collisions

In some cases, previously installed add-ons, such as anti virus programs can create collisions between applications and prevent the installation of a new add on. Disabling these add-ons may be required in order to install the RMX Web Client.

#### To disable an add-on:

- 1 In the Internet Explorer, click **Tools > Manage Add-ons**.
- 2 The **Manage Add-ons - Toolbars and Extensions** dialog box opens.
- 3 Scroll to the add-on to disable (for example, the anti virus add-on), right-click it and select **Disable**.  
Alternatively, select the add-on and click **Disable**.



- 4 Click **Close** to close this dialog box.
- 5 Connect to the RMX.

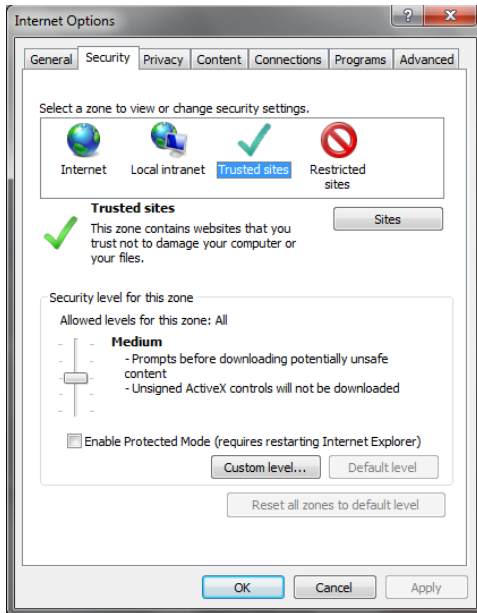
If the problem persists, continue with the Procedure 4.

## Procedure 4: Add the Collaboration Server to the Internet Explorer Trusted Sites List

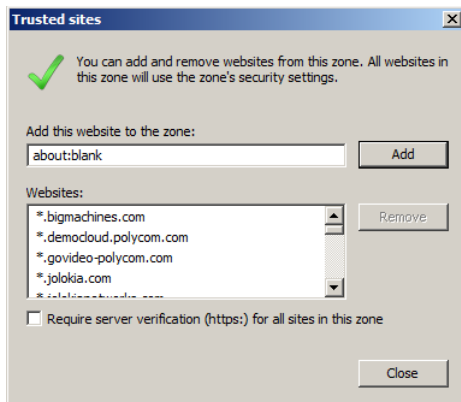
In some cases, local security settings may prevent Internet Explorer from accessing the RMX.

### To add the RMX to the Internet Explorer Trusted Sites list:

- 1 In the **Internet Options** dialog box, select the **Security** tab.  
The **Security** tab is displayed.



- 2 Select the **Trusted Sites** tab.
- 3 Click **Sites**.  
The **Trusted sites** dialog is displayed.



- 4 If the Collaboration Server (RMX) is using Secure Mode:

- a In the **Add this website to the zone:** field, enter, “**https://**” followed by the IP address or the DNS name of the Collaboration Server (RMX).
  - b Click **Add**.
  - c Click **Close**.
- 5 If the Collaboration Server (RMX) is using Standard Security Mode:
- a In the **Add this website to the zone:** field, enter, “**https://**” followed by the IP address or the DNS name of the Collaboration Server (RMX).
  - b Click **Add**.
  - c Clear the **Require server verification (https:) for all sites in this zone** check-box.
  - d Click **Close**.

### Procedure 5: Browser Hosting Controls (Optional)

If the Collaboration Server (RMX) Web Client does not load and run after Procedures 1-4 have been performed, the reason may be that .NET Framework 4 or higher is running on the workstation with **Managed Browser Hosting Controls** disabled.

**Managed Browser Hosting Controls** is an Internet Explorer operating mode required by the Collaboration Server (RMX) Web Client. By default, .NET Framework 4 and higher are not enabled to support Managed Browser Hosting Controls.

Perform Procedure 5 to:

- Determine whether **.NET Framework 4** or higher is running on the workstation.
- Determine whether a **32-bit** or **64-bit** version of **Windows** is running on the workstation.
- Enable **Managed Browser Hosting Controls** if **.NET Framework 4** or higher is running on the workstation.

#### To enable Managed Browser Hosting Controls:

- 1 Determine whether **.NET Framework 4** or higher is running on the workstation.
  - a On the **Windows Desktop**, click **Start**.
  - b In the **Start Menu**, click **Control Panel**.
  - c In the **Control Panel**, click **Programs and Features**.
  - d Inspect the **Programs and Features** list for the version of **Microsoft .NET Framework Client Profile** that is installed.
- 2 Determine whether a **32-bit** or **64-bit** version of Windows is running on the workstation:
  - a On the **Windows Desktop**, click **Start**.
  - b In the **Start Menu**, click **Computer**.
  - c In the **Computer Menu**, select **System properties** and inspect the value of the **System type** field in the **System** section
- 3 Enable **Managed Browser Hosting Controls** if **.NET Framework 4** or higher is running on the workstation.
  - a Open the **Registry**.
  - b Navigate to the **Subkey**:
    - ◆ **32-bit System:** HKEY\_LOCAL\_MACHINE\SOFTWARE\MICROSOFT\.NETFramework

◆ **64-bit System:**

HKEY\_LOCAL\_MACHINE\SOFTWARE\Wow6432Node\Microsoft\NETFramework

- c Add the **Dword Value: EnableIEHosting**
- d Set the value of **EnableIEHosting** to **1**.
- e Close the **Registry**.
- f Close and re-open **Internet Explorer**.



**NOTE: Internet Explorer 9 with Windows 7**

If Browser Error problems persist after performing the above procedures it, is recommended to:

- 1 Clear the Internet Explorer cache.
- 2 Add the MCU's URL or IP address to the Trusted Sites of Internet Explorer.
- 3 Reset Internet Explorer's security level to medium and keep default settings.