



MOTOROLA SOLUTIONS

MOTOTRBO® System Release Notes Professional Commercial Radios (PCR) & Accessories

Version: M2022.03

v2 January 23, 2023

North America Region



Contents

What's new in the Release

Product Versions

Known Issues in Product Release



What's new in the Release

Radio New Features

Remote Log Support R7 with Wi-Fi capability and Self-Diagnostic QR Code (R7 display model). Remote Log Support and Self-Diagnostic QR code are part of the improved Ownership Experience. Remote log support shall run only on R7 with Internet connection to upload the radio log to IoTCS server. The Service Code QR scan option shall direct customers to the MSI Knowledge portal for self radio diagnosis in the field. More information on feature icons and service code can be found from the latest MOTOTRBO R7 User Guide and [LXP Learning Portal \(MOTOTRBO Radios Service Code Troubleshooting Guide\)](#).

Ion Hotspot

The hotspot feature allows ION to provide internet connectivity through WiFi or LTE to other devices without data support. Please note, Ion rev A hardware supports Wi-Fi hotspot only

Ion Accessories Support

7 new accessories, including 3rd party accessory support, have been added into the Ion portfolio

RM/CPS New Features

Radio Management (RM) Role-Based Access Control

RM access control gives RM admin the ability to control an individual's access to radios and key tables in the RM with view and modify permission respectively.

Radio Management/CPS Contact List Improvement

This Contact List improvement supports the contact list import/export in CPS/RM as well as the following features:

- Multi selection of contacts for deletion
- CPS/RM export and import contact list details with CSV spreadsheet.
- A contact can be renamed via the export import process.
- An entire contact can be deleted by setting the Delete_Contact cell to True and importing.
- CPS/RM show the export/import status in the reporting view.
- The online help will contain a clear explanation of the copy and paste behaviors where contacts are concerned
- The online help will contain a clear explanation of the import export mechanism for contacts.

Capacity Max New Features

ION - Enabling late call entry on LMR after roaming from broadband



This is an enhancement of the LMR-Broadband Seamless Voice feature in Capacity Max Mode. If an ION radio is listening to an ongoing group voice call and roams from BB to LMR site, that site will be added to the ongoing call and ION radio can continue listening to that call after roaming to that LMR site. In order to add the RF site to the ongoing call, the TG ID needs to be included in the radio's talk group affiliation list.

CMSS Upgrade from USB

The upgrade of the Capacity Max system is a multi-steps process. In order to simplify and stabilize the solution, the whole upgrade process is reorganized and split into backup and restore configuration, and load factory image. The ESU Launchpad application is currently responsible for the configuration backup and restores only while the USB stick attached to the Capacity Max system server will be responsible for loading the ISO image in order to reduce the upgrade failure due to instability in network connectivity. As a result, the upgrade is faster and more reliable.

Certified network design for 100+ sites in Capacity Max

The solution provides guidance and validation for Capacity Max Systems with more than 100 sites based on HP solution in star network topology.

The feature confirms usability of HPE MSR3012 and MSR3016 routers in CMSS area.

The details can be found in the system planner.

Infrastructure/System New Features

Change Restricted Access to System (RAS) default setting to disable for all devices/infrastructure

RAS prevents unauthorized radios from utilizing MOTOTRBO systems for their voice/data/CSBK calls. It will be turned off on all new devices and repeaters by default across all regions. It eases the burden on MSI customers that are not using RAS because no configuration changes are needed. To use RAS on all new devices customers would have to enable it using CPS/RM.

SLR 8000 Status Tone range tuning

Enhance tuning range of Status Tone signal in SLR 8000 repeater for tuning procedure.

For details regarding Tuning the Wireline Status Tone Level see MOTOTRBO SLR 8000 Series Basic Service & Installation Manual

Feature Deprecation Notice

1. Codeplug Password

Starting with the M2021.01 release, **Codeplug Password** feature is deprecated for the radio and repeater Codeplug Password for the selected radios and repeaters listed on the table below. However, **Codeplug Password** feature remained active for the archived file Codeplug Password.

You are recommended to use the **TLS-PSK Authentication** feature for these radios and repeaters. The **Codeplug Password** functionality will not be removed to facilitate migration/transition to TLS-PSK but Motorola Solutions will no longer be providing support for the feature. This feature could be removed in a future release. The deprecation affects you if you are using **Codeplug Password** to set password for the current radio or repeater codeplug.

TLS-PSK Authentication feature was introduced in the R2.10.05 software release and is available on the selected radios and repeaters listed on the following table. This feature ensures an enhanced security communication between radio or repeater and customer programming tools.

For more information, refer to [New Features for MOTOTRBO Release 2.10.5 training service.](#)

Region	Radios		Repeaters
NA	XPR 7000/7000e series XPR 7000/7000e IS series XPR 5000/5000e series SL 7000/7000e series	XPR 3000/3000e series SL3500e XPR 2500 R7 Ion	SLR 1000 Series SLR 5700 Series SLR 8000 Series

2. Bluetooth Permanent Discoverable Mode

XPR 7000e and XPR 3000e series radios manufactured after March 2022 do not have Bluetooth Permanent Discoverable support.

Product Versions

Listed below are all MOTOTRBO Product types with a reference to the released version of software:

Notes: From M2020.01 onwards, only products (i.e. MOTOTRBO radios, repeaters and CMSS) which are either in warranty or under a service contract are entitled to software update.

Software Update Management (SUM) was introduced with the R2.10 system release and provides products with built-in intelligence to determine if they are eligible to accept a software update. Products on prior releases must therefore be upgraded to an R2.10 system release and be eligible to accept a software update before they can be upgraded to M2020.01 onwards.

Canceled products that are still under a service contract at time of cancellation will be entitled to the software update in line with the Motorola Solutions Software Support Policy. Following cancellation only critical bug fixes will be tested for these products.



MOTOTRBO Product	Version Supported in Release
MOTOTRBO 2.0, 2.5 (incl SL Series) - XPR 7000/5000/3000 Series, XPR 7000e/5000e/3000e Series, SL 7000/7000e Series, XPR 2500, SL3500e	R02.22.03.1001 (NEW)
MOTOTRBO R7	R02.22.03.5000 (NEW)
MOTOTRBO - CP100d, CP200d, CM200d, CM300d, SL300	R01.22.01.0004
Subscriber – MOTOTRBO - Matrix	Canceled.
Option Board – MOTOTRBO - XPR 4000/6000 Series	Canceled.
Repeater -SLR 1000, SLR 5000, SLR 8000	R20.22.03.06 (NEW)
XRC 9000 / 9100 Controller	R02.100.05.1036_1695
XRT 9000 / 9100 Gateway	R02.100.05.1036_1695
XRI 9100 Interconnect	R02.100.05.1030
Network Manager (merged with XRC / XRI packages)	R02.100.05.1030
Network Manager Connection Tool	R02.100.05.1030
XRT Configuration Tool	R02.100.05.1030
Capacity Max Bridge (CMB) Capacity Max Bridge Configuration Tool	R20.22.03.2240_1248 (NEW) R20.22.03.04 (NEW)
CPCPS	Canceled.
CPS2.0	2.134.76.0 (NEW)
Radio Management	2.134.77.0 (NEW)
CPS	CPS V16.0 Build 828
Tuner	V22.3 Build 16 (NEW)
RDAC	V22.3 Build 7 (NEW)
AirTracer	V11.0 Build 39
Device Discovery and Mobility Service (DDMS)	R22.03.0002 (NEW)
Multi Channel Device Driver (MCDD)	R2.1.3
MNIS Data Gateway	R22.03.0021 (NEW)
MNIS Status Agent	R22.03.01 (NEW)
MOTOTRBO Motopatch	Canceled
Capacity Max ESU Launchpad	DESU_LP-DESU-R17.18.10.20-03.rhel.iso (NEW)
Capacity Max System Server Installer Software Image	CVN7293H.img (NEW)
System Design Tools	Version 06.08
Sensor Management Tool	R01.00.01

3rd Party Applications	Version Supported in Release
GW3-TRBO	2.17.3.73



Avtec VP Gate	5.3.0.41 (NEW)
Avtec Scout Console/Scout Manager	5.3.0.54 (NEW)
Avtec VPGate Advanced Radio Support w/Encryption	5.3.0.16 (NEW)
Avtec Data Management Services - Scout Central Distributor	5.3.0.20 (NEW)
SmartPTT PLUS	SmartPTT_Plus_9.12.0.1365.zip (NEW)
TRBOnet PLUS	TRBOnet.Plus_6.1.0.5921.zip (NEW)

ETSI DMR Specification	Version Supported in Release
TS 102 361-1: the DMR air interface protocol	v2.5.1
TS 102 361-2: the DMR voice and generic services and facilities	v2.4.1
TS 102 361-3: the DMR data protocol	v1.3.1
TS 102 361-4: the DMR trunking protocol	v1.7.1 ~ 1.11.1

1. The feature sets supported in the release are compliant with the versions of ETSI DMR standard specifications listed above. Though in DMR Tier 3 there have been some things changed to existing features that are not backwards compatible, Capacity Max complies to the newer versions so may not always work with other manufacturer's infrastructure on older versions.
2. The Capacity Max System Advisor (SA) client is not accessible for the System View, Grid View and Alarm Details view if the Java version 8u211 or newer is used on the PC where SA client resides in. Downgrading the Java to any version between and including 8u181 and 8u201 will work fine.
3. USB 3.0 port is not supported for the repeater upgrade. With R2.8.0 and newer repeater release, the recommendation is to use USB 2.0 port on the PC or connect repeater via USB 2.0 hub when upgrading the repeater via USB.
4. For each CMSS (Capacity Max System Server),
 - a. Order (1) T8878A, MOTOTRBO M2022.03 Capacity Max System Server SW Upgrade on USB flash drive.
 - b. Alternatively, for customers with access to the MSI MyView portal, you can order (1) T8879A, MOTOTRBO M2022.03 Capacity Max System Server SW Upgrade as software iso image where you will receive an e-mail with a unique link to access/download the iso file from the MyView portal. The T8879A will require an e-mail address at the time of order.
 - c. NOTICE: The USB drive (T8878A) can take 2-3 weeks for delivery while the downloadable file via the MyView portal (T8879A) is generally available within a week. Please plan ahead and take the delivery times into consideration before scheduling your upgrade.
5. For the PC used for CMSS upgrade,



- a. Order (1) T8486A, MOTOTRBO Capacity Max System Server SW Update Launch Pad which contains the ESU LP software files on a DVD. (The M2022.03 upgrade requires this new ESU LP version).
- b. Alternatively, for customers with access to the MSI MyView portal, you can order (1) T8483B, MOTOTRBO Capacity Max System Server SW Update Launch Pad where you will receive an e-mail with a unique link to access/download the ESU LP application files from the MyView portal. The T8483B will require an e-mail address at time of order.
- c. Please refer to the section “Capacity Max System Upgrade from M2022.01 to M2022.03” of Capacity Max System Release Upgrade Guide for additional details. It is available on Learning Experience Portal (LXP) and the Upgrade Guide applies for the patch upgrade as well.
- d. **NOTICE:** The DVD (T8486A) can take 2-3 weeks for delivery while the downloadable file via the MyView portal (T8483B) is generally available within a week. Please plan ahead and take the delivery times into consideration before scheduling your upgrade
- e. The ESU Launchpad About page describes the target CMSS versions that it supports to ensure the appropriate ESU Launchpad version is ordered along with the CMSS upgrade installation files.
- f. **NOTICE:** Capacity Max Bridge, used as a connector between Capacity Max and Connect Plus, has been moved out from Cap Max Server unit to standalone PC. The software package can be downloaded from the MyView and installed on the ESU Launchpad PC or dedicated PC.

Overview

This section details the known MOTOTRBO product issues which remain outstanding at the time of this release of software to the field.

Known product issues are divided into two categories:

- Known issues contained within the current release
- Resolved Issues that have now been fixed within the current release

Definitions

A known issue is a problem that is currently unresolved (open). The risk and workaround aspects are included in the release note description (Known Issues) for overall assessment of the problem.

A closed or resolved issue is one that has been repaired and no longer should occur in the product after upgrading to the new product version.



Known Issues in Product Release

Device Impact

Issue Number:	DEVICES_COMMON-5955
System/Product:	MOTOTRBO R7, XPR 7000e and XPR 3000e
Description:	Switching connection between radio and other Bluetooth PAN devices several times on a PC may cause the radio not able to connect to the PC back.
Workarounds:	Unpair and pair R7 with the PC for reconnection.
Issue Number:	PCR_SUB-36742
System/Product:	MOTOTRBO R7, XPR 7000e and XPR 3000e
Description:	In-door location feature has been turned on on the radio. If the user simultaneously Bluetooth PTT and performs one the following such as BT connection, or BT "Find Me", or BT "Find Device"; the user would see that the suspended indoor location icon continues to display although the radio has resumed scanning the iBeacon.
Workarounds:	To remove the incorrectly suspended indoor location icon; the user can either press PTT, or perform any of the following BT operations such as BT device connection, BT "Find Me", or BT "Find Device".
Issue Number:	DEVICES_COMMON-7019
System/Products:	MOTOTRBO R7
Description:	Radio shows Wi-Fi 1 bar user when user turns off Wi-Fi or brings away the radio from the router in the middle of MOTOTRBO R7 activation/regionalization. After about 60s, the radio will show "Update Not Available", with continuous "Unprogrammed" tone, and blinking RED LED.
Workaround:	The user needs to power cycle radio, and the radio will automatically resume the radio activation/regionalization process.
Issue Number:	DEVICES_COMMON-39351
System/Products:	All MOTOTRBO non-display radio
Description:	The non-display radio is not able to make a group call after receiving Call Alert on radio that has been programmed as "Private Call" disabled. The the user needs to make sure that the call alert is disabled on a channel that has been programmed as "Privacy Call" disabled.
Workaround:	The user needs to make sure that the call alert is disabled on a channel that has been programmed as "Privacy Call" disabled.



CPS/RM Impact

n/a

Infrastructure Impact

n/a

Resolved Issues in Product Release

Resolved issues are the known product problems that were reported in product releases, but have now been fixed or closed. Following are the issue tracking number and issue descriptions that have been resolved in this release.

Device Impact

Issue Number: [PCR SUB-39223](#)

System/Product: MOTOTRBO R7

Description: Text to speech configuration takes no effect as the voice pack for text to speech apparently is empty when the CPS/RM read back the radio configurations. Note that this issue also impacts language packs and voice announcement packs.

Issue Number: [PCR SUB-39008](#)

System/Product: MOTOTRBO R7

Description: When the radio connected to the bluetooth devices and the radio's volume offset was in negative value (<0), radio tone was not hearable and muted.

Issue Number: [PCR SUB-40645](#)

System/Product: MOTOTRBO R7

Description: When using RM to write the configuration to the R7 radio which has been previously upgrade via Wi-Fi programming method, the configuration job fails and RM will prompt the Error #679 message.

Infrastructure Impact

Issue Number: [ENG INFRA PCR-13242](#)

System/Product: MOTOTRBO Network Interface Service (MNIS)

Description: The Sites configuration page will accept the two decimal places. Once a value is entered into the GPS Longitude column it will not allow adding any digits after the decimal point. A way to work around this is to type out the digits first (e.g. -10577), then add the decimal point.

Issue Number: UEM-6400

System/Product: System Advisor

Description: The Grid View in System Advisor does not show a high priority call (wide-area call) on the site where preemption happened. Note that this



issue is strictly related to the visibility of the call in System Advisor, not to the call/voice communication itself

CPS/RM Impact

Issue Number: [DMCI-1406](#)
System/Products: **CMSS in Radio Management**
Description: Fast Start setting is hidden on the existing CMSS managed in the RM after upgrading the RM from pre-M2022.01 release to M2022.01 or M2022.02 release.

Additional Info

Cybersecurity

Motorola Solutions, Inc. (MSI) has delivered a PCR MOTOTRBO 2022.03 release. MSI development and operations teams continually make security updates as needed based on evaluated threats, determine protective measures, create response capabilities, and promote compliance. MSI interacts with and participates in several US and international security organizations, such as U.S. Department of Homeland Security's National Cybersecurity & Communications Integration Center (NCCIC), National Institute of Standards and Technology (NIST), The 3rd Generation Partnership Project (3GPP), Telecommunications Industry Association (TIA), European Telecommunications Standards Institute (ETSI), Digital Mobile Radio (DMR) Security standardization, and others. Standards from the aforementioned organizations can map to security controls in international standards such as Information System Standards (ISO / IEC 27001).

The PCR MOTOTRBO 2022.03 system release includes enhancements to security based on the National Vulnerability Database and industry standards:

- Ongoing vulnerability management remediation based on network scanning security tools
- Ongoing Software Lifecycle Management improvements (3rd party software)

In addition to ongoing releases for security updates, MSI has a Bug Submission Program for external entities to disclose to MSI possible security vulnerabilities or issues. Motorola Solutions encourages researchers to use the PGP key when sending sensitive information via email. Please send all security vulnerability reports to security@motorolasolutions.com.

Open Source Software Legal Notice

This media, software or hardware ("Product") obtained from Motorola Solutions, Inc. ("Motorola Solutions") may include Motorola Solutions' Software, Third Party Software (defined below), and/or Open Source Software (defined below).

The object code or source code (collectively, the "Software") included with the Product is the exclusive property of Motorola Solutions or its licensors, and any use is subject to the terms and conditions of one or more agreements in force between the purchaser of the Motorola Solutions Product or licensee of the Motorola Solutions Software and Motorola Solutions. SOFTWARE IS PROTECTED BY U.S. COPYRIGHT LAWS AND INTERNATIONAL LAWS AND TREATIES. UNAUTHORIZED COPYING,

DISTRIBUTION OR OTHER USE OF THIS PRODUCT IS STRICTLY PROHIBITED. ANY DISTRIBUTION OR USE NOT SPECIFICALLY APPROVED BY MOTOROLA SOLUTIONS IS STRICTLY PROHIBITED.

Motorola Solutions' Software is subject to the commercial terms and conditions entered into with Motorola Solutions, any other use is strictly prohibited. Commercial Software licensed for redistribution by Motorola Solutions ("Third Party Software") is subject to the terms and conditions in force between Motorola Solutions and the licensor of the Third party Software. The terms and conditions governing the usage of Third Party Software may be part of the agreement entered into by the purchaser of the Product with Motorola Solutions or separate Third Party Software license agreement(s) included with the Product.

Software provided by Motorola Solutions which is covered by a publicly available license governed solely under Copyright law, whereas the complete terms and obligations of such license attach to a licensee solely through the act of copying, using and/or distribution of the licensed Software, such obligations often include one or more of attribution obligations, source code distribution obligations, copyleft obligations, and intellectual property encumbrances is referred to herein as "Open Source Software". The use of any Open Source Software is subject to the licenses, terms and conditions of the commercial agreement in force between the purchaser of the Product and Motorola Solutions as well as the terms and conditions of the corresponding license of each Open Source Software package. If there is a conflict between the terms and conditions of any commercial agreement and the terms and conditions of the Open Source Software license, the applicable Open Source Software license will take precedence. Copies of the licenses for the included Open Source Software as well as their attributions, acknowledgements, and software information details, are listed below. Motorola Solutions is required to reproduce the software licenses, acknowledgements and copyright notices as provided by the authors and owners, thus, all such information is provided in its native language form, without modification or translation.

Use of any Software is subject to acceptance of the corresponding terms associated with the Software and by using the Software you agree you have reviewed the terms and agreed to be bound by said terms.

To obtain a copy of the source code for the Open Source Software with source code distribution obligations, you may send a formal request in writing to:

Motorola Solutions, Inc.
Open Source Software Management
2000 Progress Parkway
Schaumburg, IL 60196 USA.

In your request, please include the Motorola Solutions Product name and version, along with the Open Source Software specifics, such as the Open Source Software name and version.

The source code for the Open Source Software included by Motorola Solutions may be residing on the product's installation media provided with the Product or on supplemental Product media. Please reference and review the entire Motorola Solutions Open Source Software "Legal Notices" and any corresponding "End User License Agreement" provided with the Product or the commercial agreement under which the Product was purchased for details on the availability, location and method for obtaining source code. Further, depending on the license terms of the specific Open Source Software, source code may not be provided. Please reference and review the entire Motorola Solutions Open Source Software "Legal Notices" and "End User License Agreement" to identify which Open Source Software packages have source code provided or available.

MOTOROLA, MOTOROLA SOLUTIONS and the Stylized M Logo are trademarks or registered

trademarks of Motorola Trademark Holdings, LLC and are used under license. All other trademarks are the property of Motorola Solutions, Inc. or their respective owners. All rights reserved.

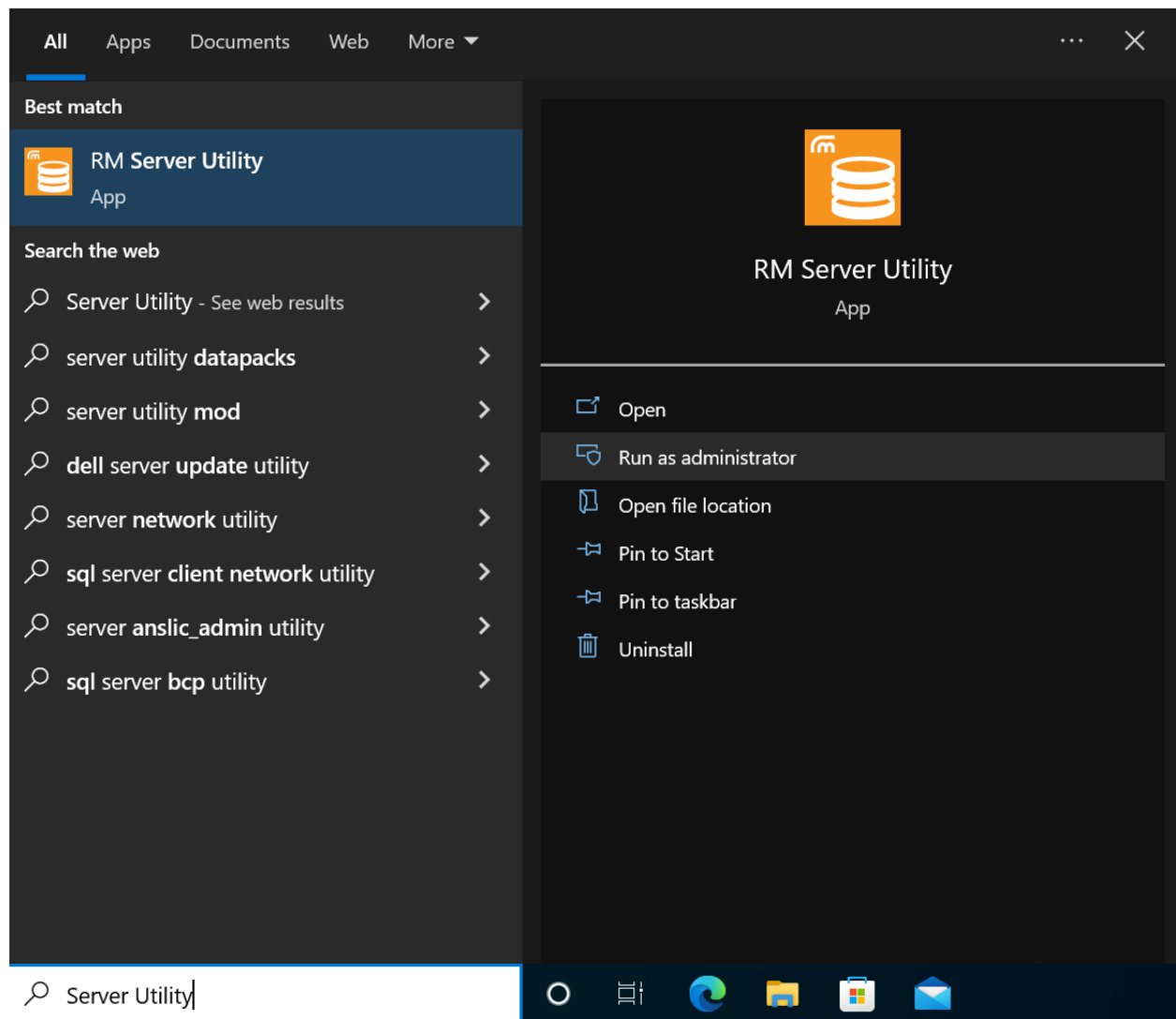
Important Note

RM Access Control Feature Note

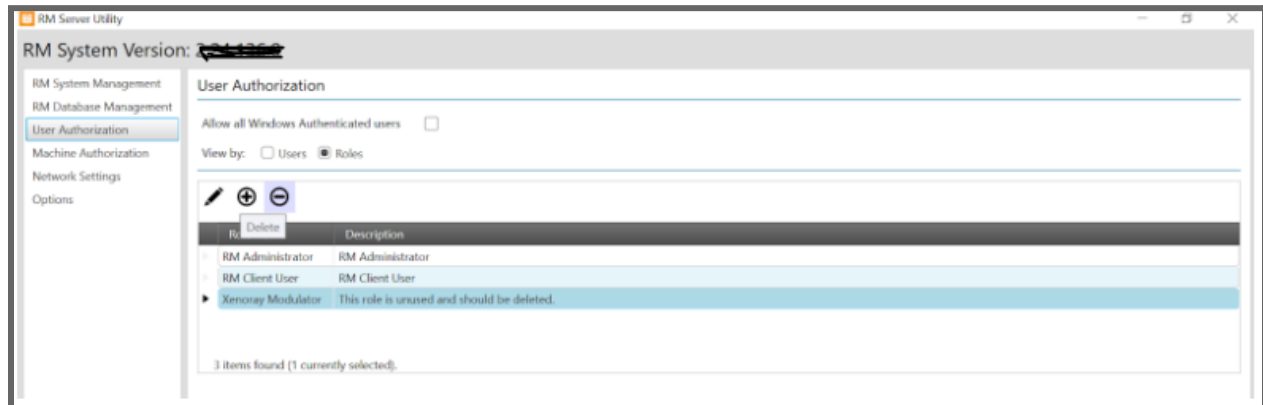
Important note for the customers who DO NOT need to use RM Access Control:

After upgrading an existing RM deployment to version 2.134.77.0 or later, there are some necessary steps to take to ensure normal operation, otherwise, users may not have access to the security keys and Radio View operations that they had prior to the upgrade.

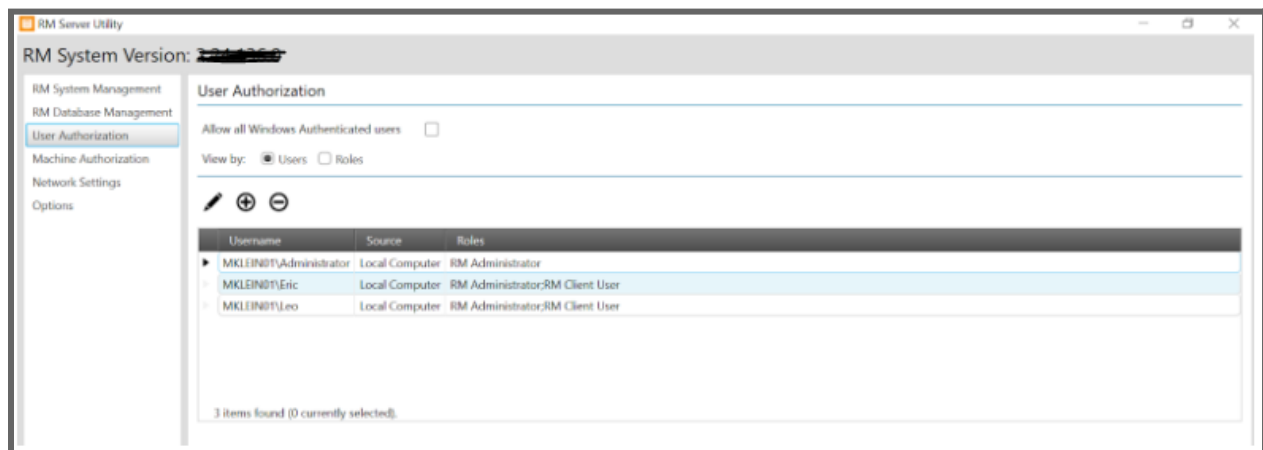
- 1) After performing the upgrade the user should open the RM Server Utility App on the machine that hosts the RM Server.



- 2) From the User Authorization tab, with the Roles radio button selected, delete any unnecessary roles that may have been created prior to the upgrade, leaving only the RM Administrator and RM Client User roles.



- 3) For users that do not wish to use the Access Control features at this time, select the Users radio button and ensure that each user that will be accessing RM remotely has both RM Administrator and RM Client User roles assigned to them.

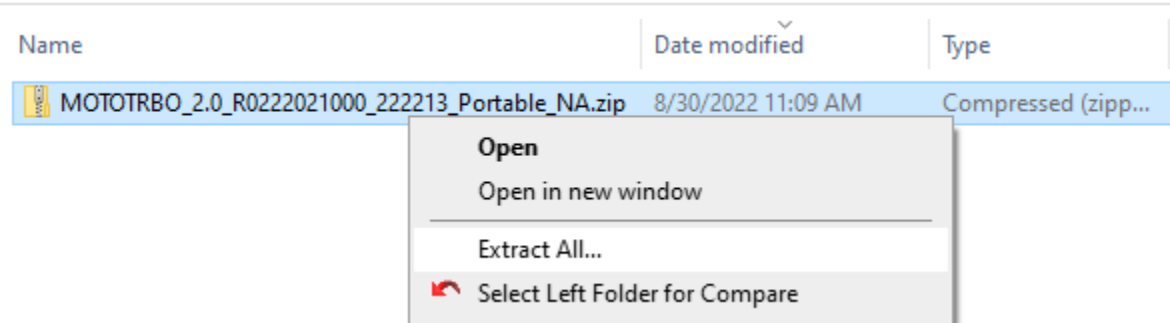


- 4) This completes the necessary steps for users that do not wish to use the Access Control features. The RM Server Utility can be closed at this point. Users should be able to use the RM Configuration Client to connect to the RM Server and perform normal operations.

New Upgrade Package Zip Format

Starting from M2022.03, MSI will start to release the MOTOTRBO firmware upgrade package in zip format. Below are the instructions on how to install the firmware upgrade package.

1. Create a new folder of your choice in the C:\drive. We will use "Packages" as an example.
2. Download zip file to C:\Packages
3. Extract All



4. Open Folder

Name	Date modified	Type	Size
MOTOTRBO_2.0_R0222021000_222213_Portable_NA.zip	8/30/2022 11:09 AM	Compressed (zipp...	58,252 KB
MOTOTRBO_2.0_R0222021000_222213_Portable_NA	10/11/2022 1:45 PM	File folder	

5. Run the Exe

program files	10/11/2022 1:45 PM	File folder	
0x0409.ini	10/1/2014 11:41 AM	Configuration sett...	22 KB
MOTOTRBO 2.0 R0222021000_222213 Portable Update Packages.msi	8/30/2022 11:09 AM	Windows Installer ...	663 KB
MOTOTRBO_2.0_R0222021000_222213_Portable_NA.exe	8/30/2022 11:09 AM	Application	1,269 KB
Setup.ini	8/30/2022 11:09 AM	Configuration sett...	6 KB

6. To save space, the folder can be deleted after successful installation