



**MOTOROLA SOLUTIONS**

Motorola Solutions, Inc.

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

**Version: M2020.01**

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**North America Region**

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## 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).

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.

The risk and workaround aspects are included in the release note description (Known Issues) for overall assessment of the problem.

## What's new in the Release

### Capacity Max New Features

#### **Permanent Receive Talkgroup**

Permanent Receive Talkgroup allows a user to permanently set the desired Talkgroup to be uneditable in the Received Talkgroup (Scan) List. Regardless if scan is ON or OFF, a radio will be able to land on the Permanent Talkgroup (voice & data) and will be able to listen to more than one talkgroup. In other words, Permanent Talkgroups are always treated as 'Scan ON' regardless if Scan is ON or OFF.

#### **Single Slot Data Revert**

Allows Data Revert to be provisioned per time-slot as opposed to per repeater on MOTOTRBO Capacity Max systems. Currently, enhanced GPS is provisioned at a repeater level thus reserving both time-slots on that repeater for Data Revert. Single Slot Data Revert allows a customer to provision a given repeater with one time slot for Data Revert and the other as a standard traffic channel or both time-slots as Data Revert, or both as traffic channels.

#### **Seamless Call Handover**

For multi-site MOTOTRBO Capacity Max systems, Seamless Call Handover provides a seamless (as far as possible) handover from one Capacity Max site to an adjacent one for an active call. This feature delivers a solution on both the Transmit and Receive subscribers of an active voice call (Private, Group or Telephone) to minimize the loss of voice packets, which is especially critical during emergency situations.

#### **Capacity Max System Server Refresh**

The Capacity Max System Server (CMSS) hardware will be refreshed from the HPE ProLiant DL380 Gen9 server to the HPE ProLiant DL20 Gen10 server. The DL20 Gen10 will provide the same

functionality as the DL380 Gen9 in a smaller form factor (The DL380 Gen9 has a 2U form factor while the DL20 Gen10 has a 1U form factor). The DL20 Gen10 will also be functionally compatible with the DL380 Gen9.

### **Juniper Networking Equipment Support for Capacity Max**

The Hewlett-Packard Enterprise (HPE) MSR2003 router and HPE 2300 switch are going end-of-life October 2021. The Juniper SRX300 and SRX345 routers and EX2300-24 switches are now supported for Capacity Max. Mixing HP and Juniper equipment is not recommended since mixed configurations have not been verified. Additionally, HPE and Juniper equipment are not compatible if customers are using an auto discovery virtual private network (ADVPN) configuration.

### **Radio New Features**

#### **CP100d portable support.**

Release M2020.01 will support the CP 100d portable in the VHF and UHF1 bands. The program is planned to be available June 12 2020.

#### **Enterprise Wi-Fi Roaming Enhancement**

This feature improves Enterprise WiFi roaming by implementing Opportunistic Key Caching (OKC) features. OKC is a network feature which is supported by some Wi-Fi network vendors which improve roaming performance. In Wi-Fi Protected Access (WPA) Enterprise networks, radios have to go through full 802.11x authentication when they roam across Access Points (AP). This feature allows the radio to roam quickly without having to perform the full authentication.

### **Service Management New Feature**

#### **Software Update Management (SUM) Enforcement**

Enables MOTOTRBO systems to continue to accept new software updates. The benefits of this feature are to improve reliability and increase security, provide new features and functionality, and to protect and extend the life of the customer's system.

It is applicable to all MOTOTRBO subscribers, repeaters, and Capacity Max System Servers (CMSS), this feature provides products with built-in intelligence to define if they are eligible to accept a software update. As of 2020.01, the firmware will start enforcing the SUM that was added in R2.10. Therefore, products on prior software releases must be upgraded to R2.10 before being upgraded to any future releases.

Products sold with R2.10 or any future releases accept major and minor software releases while the product is under warranty, or covered with a MOTOTRBO service package that includes MOTOTRBO Software Updates.

Products deployed before R2.10 require a SUM license to be upgraded beyond R2.10. SUM licenses are issued for products that have purchased a MOTOTRBO service package that includes Software Updates. Once a service package is purchased, a license is issued and pre-registered for that product serial number in Motorola Solutions' licensing database. The license is available then retrieved by

using Radio Management (RM) or Customer Programming Software 2.0 (CPS). Once the license is retrieved, the product accepts new software updates for the duration of the MOTOTRBO Service Package.

## **Cybersecurity Update**

Motorola Solutions, Inc. (MSI) has delivered a PCR MOTOTRBO 2020.01 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 2020.01 system release includes enhancements to security based on the National Vulnerability Database and industry standards:

- Lifecycle management: third-party software was updated; for example RHEL, Microsoft Windows, Oracle Java SE
- Hardening: configuration updates
- Security enhancements based upon evaluations using newer toolsets and best practices
- Security enhancements for Web Interface

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](mailto:security@motorolasolutions.com).

## Product Versions

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

MOTOTRBO Product	Version Supported in Release
Subscriber – MOTOTRBO 2.0, 2.5 (incl SL Series) - XPR 7000/7000e series, XPR 5000/5000e series, XPR 3000/3000e series, XPR 2500, SL 7000/7000e series, SL 3500e.	<i>R02.20.01.0002</i>
Subscriber – MOTOTRBO - SL300, CP100d, CP200d, CM200d, CM300d	<i>R01.20.01.0000</i> R01.12.17
Subscriber – MOTOTRBO - XPR 4000/XPR 6000 series	
Option Board – MOTOTRBO 2.0 (incl SL Series) - XPR 7000/7000e, XPR 5000/5000e, SL 7000/7000e	R02.07.38 (CP 1.1.19)
Option Board – MOTOTRBO - XPR 4000/XPR 6000 series	R01.07.45 (CP 1.0.16)
Repeater - XPR 8300 / XPR 8400 Repeater - MTR3000 Repeater - SLR 1000, 5000, 8000	<i>R20.20.01.06</i> <i>R20.20.01.06</i> <i>R20.20.01.06</i>
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)	<i>R20.20.01.1288_1114</i>
CPCPS	R02.07.43
Radio Management / CPS 2.0	<i>2.24.200.0</i>
CPS	CPS V16.0 Build 828
Tuner	<i>V19.0 Build 254</i>
RDAC	V10.0 Build 109
AirTracer	V11.0 Build 38
Device Discovery Mobility Service (DDMS)	R03.100.5001
Multi Channel Device Driver (MCDD)	R2.1.3
MNIS Data Gateway	<i>R20.01.0018</i>
MNIS Voice and Radio Command (VRC) Gateway	<i>20.20.01.11</i>
MNIS Status Agent	R02.90.5000
MOTOTRBO Motopatch	<i>2020.01.D3</i> <i>(MOTOPATCH_2020.01.D3.iso,</i> <i>KC435V000000060001.iso (DVD))</i>
Capacity Max ESU	<i>DESU-PCR-20.01.12.00-46</i> <i>(KC435L0US000202001.iso)</i>

Capacity Max Trunk Controller	<i>cmxtc-pcr-20.20.01.00-34.iso</i>
Capacity Max System Advisor	<i>UEM-PCR-20.20.01.10-00.iso</i>
Capacity Max ESU Launchpad	<i>DESU_LP-M2020.01.R17.12.00.55_1.2.3-01.rhel.iso</i>
Capacity Max System Server One-Click Upgrade	<i>CVN7292A.iso</i>
MNIS VRC Gateway	vrcgw-pcr-02.105.0010.iso
System Design Tools	Version 06.08

3rd Party Applications	Version Supported in Release
GW3-TRBO	<i>2.16.14.96</i>
Avtec VP Gate	4.8.2
Avtec Scout Console/Scout Manager	<i>4.11.1.18</i>
Avtec VPGate Advanced Radio Support w/Encryption	4.8.2
Avtec Data Management Services - Scout Central Distributor	4.8.2
HP Firmware Install Media	<i>FIRMWARE-M2020.01_1_2020.03.30_08.58.iso</i>
SmartPTT PLUS	<i>9.7.10.0</i>
TRBOnet PLUS	<i>5.5.0.3101</i>
VMware vSphere 6.x Configuration Media	<i>mot-csr-vsphere-cfg-20.01.23.10-27.iso</i>
VMware vSphere Install Media	<i>VMware-ESXi-6.7.0-Update3-15160138-MOT-670.U3.10.5.0.48-Dec2019-01.iso</i>

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 ~ 1.9.2

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) T8733A, MOTOTRBO M2020.01 Capacity Max System Server SW Upgrade which contains the CVN7292A.zip file loaded on a USB drive.
  - b. Alternatively, for customers with access to the MSI MyView portal, you can order (1) T8734A, MOTOTRBO M2020.01 Capacity Max System Server SW Upgrade where you will receive an e-mail with a unique link to access/download the CVN7292A.zip file from the MyView portal. The T8734A will require an e-mail address at the time of order.
  - c. NOTICE: The USB drive (T8733A) can take 2-3 weeks for delivery while the downloadable file via the MyView portal (T8734A) 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 M2020.01 upgrade requires this new ESU LP version).
  - b. Alternatively, for customers with access to the MSI MyView portal, you can order (1) T8483A, 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 T8483A will require an e-mail address at time of order.
  - c. Please refer to the section “Upgrading a *Capacity Max System from R2.10.0 to M2020.01*” of Capacity Max System Release Upgrade Guide for additional details. It is available on MOL 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 (T8483A) 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.

## Known Issues in Product Release

### Infrastructure Impact

Issue Number:	ENG_INFRA_PCR-5688
System/Product:	SLR8000
Description:	Subscriber to wireline console data call always fails. The repeater's



	wireline stack state machine transition from OTA_ACTIVE to IDLE is missing. In one case, the call ended without moving the state to IDLE. This is a legacy defect.
Workarounds:	Manual repeater reset.
<b>Issue Number:</b>	<b>ENG_INFRA_PCR-5826</b>
System/Product:	Capacity Max
Description:	Preemption caused by control channel movement does not display clear ongoing call information in System Advisor.
Workarounds:	To recover subscriber-initiated problematic audio stream, push PTT one more time.
<b>Issue Number:</b>	<b>ENG_INFRA_PCR-5249</b>
System/Product:	Juniper SRX series Router
Description:	When a Dynamic Host Configuration Protocol (DHCP) client with an assigned IP address changes server DHCP or the DHCP server loses its database, then the server does not have binding for the IP address the SRX router sends in the DHCP request and does not answer for that request. As a result, the DHCP client does not have an IP address on the interface
Workarounds:	N/A
<b>Issue Number:</b>	<b>ENG_INFRA_PCR-5068</b>
System/Product:	Juniper SRX series router
Description:	As a result of a Juniper bug, the auto dynamic virtual private network (ADVPN) configuration is not possible in M2020.01. release
Workarounds:	N/A
<b>Issue Number:</b>	<b>ENG_INFRA_PCR-4660</b>
System/Product:	VMware
Description:	System Advisor displays a false critical alarm upon Capacity Max Server initialization.
Workarounds:	N/A

## **CPS/RM Impact**

<b>Issue Number:</b>	<b>DMGMT-21436</b>
System/Product:	MOTOTRBO CPS2.0
Description:	Error #505 prompts at the end of the device upgrade/recover of

Workarounds: MOTOTRBO portable subscribers that are running on the low battery using CPS 2.0. When it occurs, it requires to charge the portable subscriber and then write or clone the upgraded subscriber once. Put the device in a battery charger or ensure the device has the good battery level before start the operation of device upgrade or device recover in CPS2.0.

**Issue Number:** **DMGMT-22613**

**System/Product:** MOTOTRBO RM

**Description:** Auto update is not working from pre-R2.8.0 versions. Has R2.7.5 (RM2.4.11) or older version installed, then installs R2.10 (RM2.18.95.0, first version introduces SHA256) or newer version of RM Server w/ auto update checked. Try to auto update the rest of RM components, RMC/DP/JP cannot connect to the server. As a result, auto update cannot be triggered automatically.

Workarounds: Switching certificate from SHA256 to SHA1 in Server Utility resolves the problem.

## **Radio Impact**

None.

## **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.

<b>Defect ID</b>	<b>Release Introduced</b>	<b>Product</b>	<b>Headline</b>
ENG_INFRA_PCR-3048	R2.6.0	SLR8000	Capacity Plus Issue with subscribers intermittently unable to access system C3: 26752208
PCR_SUB-14207	R2.6.0	Capacity Max	Radio unable to roam to another stronger site even though radio's location is beside said site C3: 26697210
ENG_INFRA_PCR-3801	R2.9.0	MTR3000	RDAC Only displays Voting Details at the time of connection and does not update from that point forward after upgrade from R2.4 to R2.10.5 C3: 27047516
UEM-6124	R2.10.0	Capacity Max	Capacity Max, No call information showing in System Advisor when redundant repeaters are used

			C3: 27287728
INMOL-890	R2.9.0	SLR8000	Aux Connector pin 20 Fused B+ voltage does not match what is documented in BSIM C3: 27318101
ENG_INFRA_PCR-1741	R2.6	SLR8000	Aux connector no audio after PTT C3: 26670265
ENG_INFRA_PCR-2252	R.2.6	SLR5700	COR Stuck active with Digital Phone Patch C3: 26804940
ENG_INFRA_PCR-2358	R2.6.0	Capacity Max	System Advisor Time Sync Issue with HP router C3: 26818703
ENG_INFRA_PCR-2577	R2.6.0	SLR5300	Major Alarm: PA program fails after downgrade C3: 26857752
UEM-6096	R2.9	Capacity Max	Users getting intermittent "Busy" although repeaters are not busy with traffic C3: 26861985
ENG_INFRA_PCR-2596	R2.9	Capacity Max	Users getting intermittent "Busy" although repeaters are not busy with traffic C3: 27081618
UEM-6012	n/a	Capacity Max	If Java version 8u211 is used, the user will not be able to access the System View, Grid View and Alarm Details view although there is no data loss and the GridView will still be available from the web browser
DMGMT-1454	MOTOTRBO 2.6.0	MOTOTRBO RM	When attempting to edit the Cap Max Site Selection List set, RM freezes. It takes minutes to display and edit Cap Max Site Selection List from the set view.
DMCI-725	MOTOTRBO 2.10.0	MOTOTRBO RM	RM R2.21.61.0 Will not update language packs newer than R2.9 version C3: 27146332
DMCI-717	MOTOTRBO 2.6.0	MOTOTRBO RM	Device Programmer cannot connect the assigned group C3: 27065486
DMCI-671	MOTOTRBO 2.10.0	MOTOTRBO RM	RM V2.18.95.0 Cannot read-write ( Privacy alias error) C3: 26941306
DMCI-735	MOTOTRBO 2.10.0	MOTOTRBO CPS 2.0	CPS2.0 allows licenses to be registered against SN in lower case C3: 27182603
DMCI-732	MOTOTRBO 2.10.0	MOTOTRBO CPS 2.0	When the language in CPS is turned to Spanish Setting "Repeater/Time Slot" under Channel settings is fixed to "1024" value, preventing it from setting Time Slot 1 or 2. C3: 27150649

<i>DMCI-719</i>	<i>MOTOTRBO 2.6.0</i>	<i>MOTOTRBO CPS 2.0</i>	<i>XPR3500 - R2.10, cannot enable Site Lock feature without IPSC license C3: 27127141</i>
<i>DMCI-678</i>	<i>MOTOTRBO 2.10.0</i>	<i>MOTOTRBO CPS 2.0</i>	<i>TPL code in the codeplug resets to XZ with every read of CP200d and CM200d/CM300di on CPS 2.0 C3: 26980256</i>
<i>PCR_SUB-17677</i>	<i>n/a</i>	<i>MOTOTRBO XPR 7000e series</i>	<i>RSSI is reduced a lot once the radio is closed to the Tx radio on XPR 7000e series radios C3: 27147174</i>
<i>PCR_SUB-14181</i>	<i>MOTOTRBO2.10.0</i>	<i>MOTOTRBO XPR 7550e</i>	<i>XPR7550e radios cannot enter programming mode following Wi-Fi configuration update C3: 26942393</i>
<i>PCR_SUB-8524</i>	<i>n/a</i>	<i>MOTOTRBO CP200d</i>	<i>CP200d Voice Modulation C3: 26623500</i>

## Additional Info

External Training: PCT0124 - New Features for M2020.01