MULTITECH

Software Release Notes

mLinux Embedded Software
Includes mLinux 6.3.0

Models Impacted:
MultiTech Conduit® Gateway
MultiTech Conduit® IP67 Base Station
MultiTech Conduit® IP67 200 Series Base Station
MultiTech Conduit® AP Access Point

Overview

mLinux is an open-source embedded Linux distribution. It's built using the open source Yocto Project which uses the OpenEmbedded-Core build framework. A pre-built Linux image ships with select Conduit devices as well as the source code and build system for creating your own custom image.

Notes

This document includes the release notes and cumulative changelog for mLinux embedded software. Detailed information is listed in reverse chronological order, starting with the most recent mLinux release:

> Operating system updates
> New hardware supported
> New features
> Enhanced features
> Known behaviors
> Bug fixes
> Feature deprecations

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Additional Resources:
> Getting Started:
>> http://www.multitech.net/developer/software/mlinux/
> Upgrade Instructions:
>> http://www.multitech.net/developer/software/mlinux/upgrading-mlinux/
> mLinux source code and build system:
>> http://www.multitech.net/developer/downloads/#mlinux
> Support:
>> https://support.multitech.com/ to create a support case

mLinux 6.3.0 Changelog and Overview

Under Development

Status: Available for download in June 2023

Updates in mLinux 6.3.0, from mLinux 6.0.1

OS Changes	Hardware Support	New Feature	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted

Operating System Component Updates (mLinux 6.3.0)

Updated Linux Kernel • Linux kernel updated to version 5.4.199 • Previous versions of mLinux used Linux kernel version 5.4.81	PP-578
Updated Python version • Python updated to version 3.8.13 • Previous versions of mLinux used Python 3.8.11	-
Updated bluez • bluez updated to version 5.6.4 • Previous versions of mLinux used bluez version 5.5	PP-579
Updated OpenSSL • OpenSSL updated to version 1.1.1q • mLinux 6.0.1 used OpenSSL version 1.1.1n • Resolution to CVE-2022-1292 and CVE-2022-2068 and other openSSL CVE (openSSL release notes) • MultiTech Security Advisories	PP-581

Hardware Support (mLinux 6.3.0)

MultiTech mCard™ Gateway Accessory Cards (MTAC Series)
 • Support for new MTAC LoRa Accessory Cards
   o MTAC-003E00 - 868 MHz LoRa Accessory Card, Antenna Sold Separately
   o MTAC-003U00 - 915 MHz LoRa Accessory Card, Antenna Sold Separately
 • Updated features include:
   o Network-based sensor location using fine timestamping and Time Difference of Arrival (TDOA) from at least three gateways
   o Additional spreading factors (SF5 – SF12) allow for optimized network performance, increased LoRa traffic (especially in dense LoRa networks), and improved end-device battery performance
 • Reference Known Behaviors for information on using multiple MTAC LoRa Accessory Cards in MTCDT devices
 • MultiTech mCard available individually and in select Conduit gateways (MTCDT-series) and IP67 base stations (MTCDTIP- series)
	PP-497

LoRaWAN Enhancement - Reset GPS after PPS Reconnection • mLinux 6.3.0 detects when PPS is lost and when PPS returns, the gateway GPS is reset • In previous versions of mLinux, loss of PPS results in invalid GPS timestamps attached to received packets • Resetting the gateway GPS upon PPS reconnect restores the correct behavior	Enhancement GP-1825 GP-1826 GP-1827

Known Behaviors (mLinux 6.3.0)

MTCDT- devices can only be used with one version of MTAC LoRa Gateway Accessory Card	Known Behavior
<table><tr><th>AP1</th><th>AP2</th><th>Support</th></tr><tr><td>MTAC-LORA-H</td><td>None</td><td>Supported</td></tr><tr><td>MTAC-LORA-H</td><td>MTAC-LORA-H</td><td>Supported</td></tr><tr><td>MTAC-003</td><td>None</td><td>Supported</td></tr><tr><td>MTAC-003</td><td>MTAC-003</td><td>Supported</td></tr><tr><td>MTAC-LORA-H</td><td>MTAC-003</td><td>Not Supported</td></tr><tr><td>MTAC-003</td><td>MTAC-LORA-H</td><td>Not Supported</td></tr></table>	
The following devices and device configurations can be downgraded from mLinux 6.3.0 to earlier mLinux versions: • When the downgrade process is complete, a factory default is recommended • MTCDT with gateway accessory card: MTAC-LORA-H-868 or MTAC-LORA-H-915 • MTCDTIP with gateway accessory card: MTAC-LORA-H-868 or MTAC-LORA-H-915 • MTCAP, MTCAP2 • MTCDTIP2	-
Upgrade package install is not available • mLinux 6.3.0 includes many version updates • Due to these changes, a full image install is required to upgrade from previous mLinux versions	-
Firmware updates delete all passwords and put the device in commissioning mode	-

Schedule (mLinux 6.3.0)
- Downloadable Versions
  - mLinux 6.3.0 Availability: June 2023
  - Visit http://www.multitech.net/developer/downloads/
- Manufacturing Updates:
  - Devices that ship from MultiTech starting in September 2023 will include mLinux 6.3.0
  - See model numbers impacted for details

Models Numbers Impacted (mLinux 6.3.0)
- MultiTech Conduit® Gateway
  - MTCDT-240L, MTCDT-246L, MTCDT-247L
  - MTCDT-L4E1, MTCDT-L4G1, MTCDT-L4N1, MTCDT-LAT3, MTCDT-LAP3, MTCDT-LDC3, MTCDT-LSB3
- MultiTech Conduit® IP67 Base Station
  - MTCDTIP-266L, MTCDTIP-267L
- MultiTech mCard™ Gateway Accessory Cards
  - MTAC-LORA-H-868, MTAC-LORA-H-915, MTAC-LORA-H-923-JP
  - MTAC-003E00, MTAC-003U00
  - MTAC-GPIO, MTAC-MFSER-DTE, MTAC-MFSER-DCE, MTAC-ETH, MTAC-XDOT
  - Note: MultiTech mCard available individually and in select Conduit gateways (MTCDT-series) and IP67 base stations (MTCDTIP- series)
- MultiTech Conduit® IP67 200 Series Base Station
  - MTCDTIP2-EN
  - MTCDTIP2-L4E1, MTCDTIP2-LNA3

Models Numbers Impacted (mLinux 6.3.0)

- MultiTech Conduit® AP Access Point
  - MTCAP-868, MTCAP2-868, MTCAP-915, MTCAP2-915
  - MTCAP-L4E1, MTCAP2-L4E1, MTCAP-LNA3, MTCAP2-LNA3

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mLinux 6.0.1 Changelog and Overview

May 2022

Updates in mLinux 6.0.1, from mLinux 5.3.31

OS Changes	New Hardware	New Feature	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted

Operating System Component Updates (mLinux 6.0.1)

Updated OpenSSL • OpenSSL updated to version 1.1.1n • Previous versions of mLinux used OpenSSL 1.1.1b • Resolution to CVE-2022-0778 and other openSSL CVE (openSSL release notes) • MultiTech Security Advisories	-
Updated Yocto Version • Yocto version updated to Dunfell (version 3.1.10). • Previous versions of mLinux used Yocto Thud (version 2.6)	[PP-525]
Updated Linux Kernel • Linux kernel updated to version 5.4.81 • Previous versions of mLinux used Linux kernel version 4.9.240	-
Updated Python version • Python updated to version 3.8.11 • Previous versions of mLinux used Python 2.7	-
Most package builds, including opkg updates, use https protocols instead of http protocols	-

Known Behaviors (mLinux 6.0.1)

The following devices and device configurations can be downgraded from mLinux 6.0.X to earlier mLinux versions: • When the downgrade process is complete, a factory default is recommended • MTCDT with gateway accessory card: MTAC-LORA-H-868 or MTAC-LORA-H-915 • MTCDTIP with gateway accessory card: MTAC-LORA-H-868 or MTAC-LORA-H-915 • MTCAP, MTCAP2 • MTCDTIP2	-
mLinux 6.0.1 does not include support for MTAC-003 LoRa Gateway Accessory Cards	-
Upgrade package install is not available • mLinux 6.0.1 includes many version updates • Due to these changes, a full image install is required to upgrade from previous mLinux versions	-
The lora-packet forwarder must be stopped prior to stopping GPSD or the CPU overloads. • /etc/init.d/lora-packet-forwarder stop • /etc/init.d/gpsd stop	-
Firmware updates delete all passwords and put the device in commissioning mode	-
Issue when using MTAC-ETH gateway accessory card in MTCDT devices (AP2 slot). • This can be fixed via opkg by updating libudev1 eudev	-

Known Behaviors (mLinux 6.0.1)

LoRa spidev paths have changed when Linux kernel was updated to 5.4.81 in mLinux 6.0.1, preventing the LoRa packet forwarder from starting. • Short term, code can be changed by the customer • Long term, mLinux 6.3.X includes a fix for this behavior	TS-5113802

Bug Fixes (mLinux 6.0.1)

Corrected an SMS messaging issue on the Verizon network using some cellular modems	-

Deprecations (mLinux 6.0.1)

Python 2.X support • Python 2 is not present in mLinux. Only Python 3.8.11 is supported.	-

Schedule (mLinux 6.0.1)
- Downloadable Versions
    - mLinux 6.0.1 Availability: May 2022
    - Visit http://www.multitech.net/developer/downloads/
- Manufacturing Updates:
    - Devices that ship from MultiTech starting in October 2022 will include mLinux 6.0.1
    - See part numbers impacted for details

Models Impacted (mLinux 6.0.1)
- MultiTech Conduit® Gateway
    - MTCDT-240L, MTCDT-246L, MTCDT-247L
    - MTCDT-L4E1, MTCDT-L4N1, MTCDT-LAT3, MTCDT-LAP3, MTCDT-LDC3, MTCDT-LSB3
- MultiTech Conduit® IP67 Base Station
    - MTCDTIP-266L, MTCDTIP-267L
    - MTCDTIP-L4E1, MTCDTIP-L4N1, MTCDTIP-LAP3, MTCDTIP-LDC3, MTCDTIP-LSB3
- MultiTech mCard™ Gateway Accessory Cards
    - MTAC-LORA-H-868, MTAC-LORA-H-915, MTAC-LORA-H-923-JP
    - MTAC-GPIO, MTAC-MFSER-DTE, MTAC-MFSER-DCE, MTAC-ETH, MTAC-XDOT

    Note: MultiTech mCard are available individually and in select Conduit gateways (MTCDT-series) and IP67 base stations (MTCDTIP- series)
- MultiTech Conduit® AP Access Point
    - MTCAP-868, MTCAP2-868, MTCAP-915, MTCAP2-915
    - MTCAP-L4E1, MTCAP2-L4E1, MTCAP-LNA3, MTCAP2-LNA3
- MultiTech Conduit® IP67 200 Series Base Station
    - MTCDTIP2-EN
    - MTCDTIP2-L4E1, MTCDTIP2-LNA3

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mLinux 5.3.31 Changelog and Overview

February 2022

Updates in mLinux 5.3.31, from mLinux 5.3.0b

OS Changes	New Hardware	New Feature	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted

Operating System Component Updates (mLinux 5.3.31)

gpsd upgraded to 3.20-m10.0 Previous versions used gpsd 3.1.6 Issues Resolved: • gpsd failure when too many satellites are present • gpsd week number rollover issue which caused the system date to roll back to 2002	[PP-510]

New Hardware Support (mLinux 5.3.31)

Support for MTCDT-246L and MTCDT-247L devices with substitute components Hardware version MTCDT-0.2	[PP-507] [PP-513]
Support for MTCDTIP-266L and MTCDTIP-267L devices with substitute components Hardware version MTCDTIP-0.1	-

New Features (mLinux 5.3.31)

Updates to the current cellular module firmware defaults. These changes will help avoid service interruption for certain MultiTech 4G products impacted by the AT&T 3G network sunset. • Current cellular module default: CEMODE=1 (Voice Centric) • New cellular module default: CEMODE=2 (Data Centric) • Additional Resources: AT&T Overview of 3G Sunset: https://iotdevices.att.com/att-iot/3GSunset.aspx • Originally available in mLinux 5.3.26	[PP-387]

Feature Enhancement (mLinux 5.3.31)

LoRa Network Server (LNS), LoRa Packet Forwarder (LPF), and LoRa Gateway (LG) updates:
• LNS updated to v2.5.24
  o Includes support for channel plan AS923-4 LoRa Frequency Plan (Israel)
• LPF updated to v4.0.14
  o Includes Listen-Before-Talk update
  o 128µs scan time does not allow packets above ≈ 370ms duration
• LG updated to v5.0.10. Includes fix for Class B beacon frequency error correction
	[PP-446]

Updated WiFi driver (EN 300 328 V2.2.2 standard)	-

Known Behavior (mLinux 5.3.31)

Upgrade package install is not available
• mLinux 5.3.31 includes a large number of version updates
• Due to these changes, a full image install is required to upgrade from mLinux 5.2.X versions
• Incremental updates are supported when upgrading from mLinux 5.3.X versions.
  o Incremental updates will not support hardware version MTCDT-0.2 or hardware version MTCDTIP-0.1
  o Substitute hardware versions already include these updates
	-

Schedule (mLinux 5.3.31)
- Manufacturing Updates:
  - Devices that ship from MultiTech starting in February 2022 will include mLinux 5.3.31
  - See part numbers impacted for details
- Downloadable Versions
  - mLinux 5.3.31 Availability: February 2022
  - Visit http://www.multitech.net/developer/downloads/#mlinux
- Manufacturing Updates:
  - Devices that ship from MultiTech starting in February 2022 will include mLinux 5.3.31.
  - See part numbers impacted for details

Models Impacted (mLinux 5.3.31)

MultiTech Conduit® Gateway
- Hardware version MTCDT-0.2 (substitute components)
- Hardware version MTCDT-0.1 (original design)

	-240L			-246L				-247L			
	#	-868	-915	#	-868	-915	-923	#	-868	-915	-923
MTCDT				•	•		•	•	•		
MTCDT-L4E1				•	•			•			
MTCDT-L4G1				•	•	•		•	•	•	
MTCDT-L4N1	##			•			•	•		•	
MTCDT-LAP3							•				
MTCDT-LAT3											
MTCDT-LDC3											
MTCDT-LSB3											
MTCDT-LVW3											

(#) Models with no MultiTech mCard™ LoRa Gateway Accessory Cards
(##) Models with MultiTech mCard model MTAC-ETH

MultiTech Conduit® IP67 Base Station
- Hardware version MTCDTIP-0.1 (substitute components)
- Hardware version MTCDTIP-0.0 (original design)

	-266L			-267L			-270L			-275L		
	-868*	-915*	-923*	-868*	-915*	-923*	-868*	-915*	-923*	-868*	-915*	-923*
MTCDTIP	•	•	•	•	•							
MTCDTIP-L4E1	•			•								
MTCDTIP-L4G1	•	•		•	•		•			•		
MTCDTIP-L4N1		•			•							
MTCDTIP-LAP3												
MTCDTIP-LDC3												
MTCDTIP-LSB3												

(*) Includes models with one or two MultiTech mCard™ LoRa Gateway Accessory Cards

mLinux 5.3.26 Changelog and Overview

January 2022

Updates in mLinux 5.3.26, from mLinux 5.3.5

OS Changes	New Hardware	New Feature	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted

Operating System Component Updates (mLinux 5.3.26)

gpsd upgraded from 3.16 to 3.20	[PP-510]

New Hardware Support (mLinux 5.3.26)

Support for MTCDT hardware with substitute components.	[PP-507]
Hardware version MTCDT-0.2	[PP-513]

New Features (mLinux 5.3.26)

Updates to the current cellular module firmware defaults. These changes will help avoid service interruption for certain MultiTech 4G products impacted by the AT&T 3G network sunset. • Current cellular module default: CEMODE=1 (Voice Centric) • New cellular module default: CEMODE=2 (Data Centric) • Additional Resources: AT&T Overview of 3G Sunset: https://iotdevices.att.com/att-iot/3GSunset.aspx	[PP-387]

Feature Enhancement (mLinux 5.3.26)

LoRa Network Server (LNS), LoRa Packet Forwarder (LPF), and LoRa Gateway (LG) updates: • LNS updated to v2.5.24. Includes support for channel plan AS923-4 LoRa Frequency Plan (Israel) • LPF updated to v4.0.14. Includes Listen-Before-Talk update o 128us scan time does not allow packets above ≈ 370ms duration • LG updated to v5.0.10. Includes fix for class be beacon frequency error correction	[PP-446]

Known Behavior (mLinux 5.3.26)

LoRa Gateway (LG) LG updated to v5.0.10. Issues identified in Class B deployments. Class B not recommended	-
Upgrade package install is not available • mLinux 5.3.26 includes a large number of version updates • Due to these changes, a full image install is required to move from prior mLinux versions (i.e. mLinux 5.2.7) • Failure to perform a full image install in upgrading to mLinux 5.3.26 will result in an upgrade failure	-

Schedule (mLinux 5.3.26)

- Manufacturing Updates:
    - Devices that ship from MultiTech starting in February 2022 will include mLinux 5.3.26.
    - See part numbers impacted for details

Models Impacted (mLinux 5.3.26)

- MultiTech Conduit® Gateway
    - MTCDT-L4N1-240L, MTCDT-L4N1-240L-ETH
    - Substitute component build only (Hardware version MTCDT-0.2)

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mLinux 5.3.5 Changelog and Overview

March 2021

Updates in mLinux 5.3.5 from mLinux 5.2.7

OS Changes	New Hardware	New Feature	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted

Operating System Component Updates (mLinux 5.3.5)

gpsd upgraded from 3.16 to 3.20	[PP-510]

New Hardware Support (mLinux 5.3.5)

Conduit IP67 200 Series models	[PP-275]
https://www.multitech.com/brands/conduit-ip67-200	[PP-301]
MTCDT-L4G1 models (Quectel EG25-G WW)	[PP-306]
MTCDTIP-L4G1 models (Quectel EG25-G WW)	

Feature Enhancement (mLinux 5.3.5)

New gpsd initialization method to improve start-up	-
LoRa Network Server (LNS) upgraded to v2.5.1-r0	-
LoRa Packet Forwarder (LPF) upgraded to v4.0.10r30	-

Bug Fix (mLinux 5.3.5)

In earlier mLinux versions, firmware updates using an SD card would fail. mLinux 5.3.5 includes updated initscripts (1.0-r155.47) to fix	-

Schedule (mLinux 5.3.5)

- Manufacturing Updates:
  - Devices that ship from MultiTech starting in March 2021 will include mLinux 5.3.5
  - See part numbers impacted for details

Models Impacted (mLinux 5.3.5)

- MultiTech Conduit® Gateway
  - MTCDT-L4G1
- MultiTech Conduit® IP67 200 Series Base Station
  - MTCDTIP2-EN
  - MTCDTIP2-LEU7, MTCDTIP2-LNA7
- MultiTech Conduit® IP67 Base Station
  - MTCDTIP-L4G1

mLinux 5.3.4 Changelog and Overview

May 2021

Updates in mLinux 5.3.4 from mLinux 5.2.7

OS Changes	New Hardware	New Feature	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted

New Hardware Support (mLinux 5.3.4)

Conduit IP67 200 Series models	[PP-275]
https://www.multitech.com/brands/conduit-ip67-200	[PP-301]

Schedule (mLinux 5.3.4)

- Manufacturing Updates:
    - Devices that ship from MultiTech starting in May 2021 will include mLinux 5.3.4
    - See part numbers impacted for details

Models Impacted (mLinux 5.3.4)

- MultiTech Conduit® IP67 200 Series Base Station
    - MTCDTIP2-EN
    - MTCDTIP2-LEU7, MTCDTIP2-LNA7

mLinux 5.3.0e Changelog and Overview

March 2021

Updates in mLinux 5.3.0e from mLinux 5.3.0b

OS Changes	New Hardware	New Feature	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted

New Hardware Support (mLinux 5.3.0e)

Conduit AP Support for MTCAP2 devices with battery backup capability https://www.multitech.com/brands/multiconnect-conduit-ap	-

Schedule (mLinux 5.3.0e)

- Manufacturing Updates:
    - All MTCAP2 devices with battery backup that ship from MultiTech will include mLinux 5.3.0e.

Models Impacted (mLinux 5.3.0e)

- MultiTech Conduit® AP – Battery Backup Models
    - MTCAP2-XXXX-BB
    - MTCAP2-L4E1-XXXX-BB
    - MTCAP2-LNA3-XXXX-BB

mLinux 5.3.0b Changelog and Overview

January 2021

Updates in mLinux 5.3.0b from mLinux 5.2.7

OS Changes	New Hardware	New Feature	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted

Operating System Component Updates (mLinux 5.3.0b)

Upgrade to Yocto 2.6.4 (codename: Thud) • mLinux 5.2.7 built using Yocto 2.2.4 (codename: Morty) • Yocto 2.6.4 introduces a large number of new software versions • It is recommended that user applications be re-compiled and re-linked using either BitBake or the toolchain to be compatible with newer software libraries	-
Upgrade to OpenSSL 1.1.1b • mLinux 5.2.7 supports OpenSSL 1.0.2k	-

New Hardware Support (mLinux 5.3.0b)

Conduit AP Access Point (POE models) https://www.multitech.com/brands/multiconnect-conduit-ap	[PP-275]

New Features (mLinux 5.3.0b)

UXPF utility replaces LXFP utility • Utilities used to upgrade Telit radio firmware • UXFP utility: Available on mLinux 5.3.0b and later http://www.multitech.net/developer/software/mlinux/using-mlinux/using-uxfp-to-upgrade-telit-firmware/	[PP-255]
Support for AS923 LoRa Frequency Plans • AS923-1, AS923-2, AS923-3	[PP-307]
For a complete details on software packages that have been removed or revised, contact support@multitech.com	-

Known Behaviors (mLinux 5.3.0b)

Upgrade package install is not available • mLinux 5.3.0b includes a large number of version updates • Due to these changes, a full image install is required to move from prior mLinux versions (i.e. mLinux 5.2.7) • Failure to perform a full image install in upgrading to mLinux 5.3.0b will result in an upgrade failure	-

Bug Fix (mLinux 5.3.0b)

Group Sudo changes • Path for commissioned users and all users in group Sudo now includes /sbin and /usr/sbin • This bug existed prior to mLinux 5.2.7	-
Cellular Modem APN Behavior Changes • When changing the cellular modem APN, there was a chance that the device might not register successfully (i.e. bad reception) • When this occurs, the cellular modem is left with a mode setting of COPS=2 or CFUN=0. This prevents all future ppp connections • This has been corrected. mLinux 5.3.0b checks for CFUN=1 and COPS=0 before attempting to register the cellular modem • mLinux 5.3.0b also sets CFUN=1 and COPS=0 before attempting to register the cellular modem	-

Deprecated Features (mLinux 5.3.0b)

Node.js support deprecated • mLinux 5.2.7 supported Node.js version 0.10.48-r1.7.0 • The requirement to upgrade to OpenSSL 1.1 means that the Conduit family of programmable gateways can no longer support Node.js applications due to security protocol vulnerabilities that exists within Node.js	[PP-111]
Ruby support deprecated • mLinux 5.2.7 supported Ruby version 2.2.5-r0.0	[PP-111]
LXFP utility support deprecated and replaced with UXFP utility • Utilities used to upgrade Telit radio firmware http://www.multitech.net/developer/software/mlinux/using-mlinux/using-lxfp-to-upgrade-telit-firmware/	[PP-152]
For a complete details on software packages that have been removed or revised, contact support@multitech.com	-

Schedule (mLinux 5.3.0b)
- Manufacturing Updates:
  - Devices that ship from MultiTech starting in May 2021 will include mLinux 5.3.0b
  - See part numbers impacted for details
- Downloadable Versions:
  - Visit http://www.multitech.net/developer/downloads/
  - January 2021

Models Impacted (mLinux 5.3.0b)
- MultiTech Conduit® Gateway
  - MTCDT-240L, MTCDT-246L, MTCDT-247L
  - MTCDT-L4E1, MTCDT-L4N1, MTCDT-LAT3, MTCDT-LAP3, MTCDT-LDC3, MTCDT-LSB3
  - MTCDT-H5 (download only)
- MultiTech Conduit® IP67 Base Station
  - MTCDTIP-266L, MTCDTIP2-267L
  - MTCDTIP-L4E1, MTCDTIP-L4N1, MTCDTIP-LAP3, MTCDTIP-LDC3, MTCDTIP-LSB3
- MultiTech Conduit® AP Access Point
  - MTCAP-868, MTCAP2-868, MTCAP-915, MTCAP2-915
  - MTCAP-L4E1, MTCAP2-L4E1, MTCAP-LNA3, MTCAP2-LNA3

mLinux 5.2.7 Changelog and Overview

June 2020

Updates in mLinux 5.2.7 from mLinux 5.1.8

OS Changes	New Hardware	New Feature	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted

Operating System Component Updates (mLinux 5.2.7)

lightpd: Updated to v 1.4.48	

New Hardware Support (mLinux 5.2.7)

Support for new MultiTech mCard™ MTAC-LORA-2G4-3	[PP-156]

New Features (mLinux 5.2.7)

Commission Mode	[PP-7]
• Due to California IoT Laws implemented on January 1, 2020, all new mLinux (version 5.2.7 and above) devices now use commissioning mode as a reasonable security measure. With this mode, users must choose a desired login and password before using the device • Upon initial power up or after activating factory default settings, the device initiates commissioning mode • Before using the device, you must register your first admin user via commissioning mode. Provide your own unique username and password as admin credentials for this device. This process also updates the U-Boot credentials with the same user-provided password • We recommend users have commissioning active on new devices. Customers who elect to install custom images on their devices without commissioning should understand the security risks involved and accept responsibility for those risks which could include non-compliance with any existing standards or regulations	

Schedule (mLinux 5.2.7)

- Manufacturing Updates:
    - Devices that ship from MultiTech starting in September 2020 will include mLinux 5.2.7
    - See part numbers impacted for details
- Downloadable Versions:
    - Visit http://www.multitech.net/developer/downloads/
    - mLinux 5.2.7 Availability: June 23, 2020

Models Impacted (mLinux 5.2.7)

- MultiTech Conduit® Gateway
    - MTCDT-240L, MTCDT-246L, MTCDT-247L
    - MTCDT-L4E1, MTCDT-L4N1, MTCDT-LAT3, MTCDT-LAP3, MTCDT-LDC3, MTCDT-LSB3
    - MTCDT-H5 (download only)
- MultiTech Conduit® IP67 Base Station
    - MTCDTIP-266L, MTCDTIP2-267L
    - MTCDTIP-L4E1, MTCDTIP-L4N1, MTCDTIP-LAP3, MTCDTIP-LDC3, MTCDTIP-LSB3
- MultiTech Conduit® AP Access Point
    - MTCAP-868, MTCAP2-868, MTCAP-915, MTCAP2-915
    - MTCAP-L4E1, MTCAP2-L4E1, MTCAP-LNA3, MTCAP2-LNA3

mLinux 5.1.8 Changelog and Overview

November 2019

Updates in mLinux 5.1.8 from mLinux 5.0.0

OS Changes	New Hardware	New Feature	Feature Enhancement	Known Behaviors	Bug Fixes	Deprecations	Schedule	Models Impacted

Operating System Component Updates (mLinux 5.1.8)

sudo: Updated to v 1.8.27	
openSSL version 1.0.2k	

New Hardware Support (mLinux 5.1.8)

MTCAP-L4E1, MTCDT-L4E1, MTCDTIP-L4E1 models (Telit LE910C4-EU)	
MTCDT-L4N1, MTCDTIP-L4N1 models (LE910C4-NF)	
MTCAP-LAP3, MTCDT-LAP3, MTCDTIP-LAP3 models (Telit LE910C1-AP)	
Additional cellular radio support -LNA4 (Telit LE910-NA ATT-VZW) -LEU7 (Quectel EG95-E)	

Additional Information

If you have any questions regarding the mLinux Software Release Notes, please contact your MultiTech sales representative or visit the technical resources listed below:

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Revision History

Version	Author	Date	Change Description
-008	DT	01/20/2023	mLinux 6.3.0 added
-007	DT	06/8/2022	mLinux 6.0.1 added • mLinux 6.0.0 renamed mLinux 6.0.1 • OpenSSL Operating System Update added • Linux kernel updated
-006	DT	04/26/2022	mLinux 5.1.8 added
-005	DT	04/14/2022	mLinux 6.0.0 added
-004	DT	03/31/2022	mLinux 5.3.0e added
-003	DT	02/11/2022	mLinux 5.3.31 added
-002	DT	02/03/2022	mLinux 5.3.4 added
-001	DT	01/21/2022	Original version, including mLinux 5.1.8, mLinux 5.2.7, mLinux 5.3.0b

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Subject to Revision
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