

**MF350BV, VF350BM, MF200BM, and VF200BV
Software Release Document
Release Notes 2.5.0.0**

Version M

Revision History

Date	Version	Description	Author
7/8/2019	C	Software Release 1.2.x.x	Steve Noel
11/13/2019	D	Software Release 1.2.1.11	Steve Noel
2/3/2020	E	Software Release 2.0.0.2	Steve Noel
5/27/2020	F	Software Release 2.1.0.1	Steve Noel
10/20/20	G	Software Release 2.2.0.0	Steve Noel
5/10/2021	H	ThalesLINK Software Release 2.2.1.4	Steve Noel
1/18/2022	J	ThalesLINK Software Release 2.2.2.0	Steve Noel/Mark Hafner
6/13/2022	K	ThalesLINK Software Release 2.3.0.0	Steve Noel
9/9/2022	L	ThalesLINK Software Release 2.4.0.0	Steve Noel/Lena Campbell
3/22/2023	M	ThalesLINK Software Release 2.5.0.0	Steve Noel/Lena Campbell

REPRODUCED COPIES ARE NOT CONTROLLED

OT45-015D, Software Release Document, Rev. 1, Date: 9/9/2022

Table of Contents

1.	Introduction	4
1.1	Disclaimer of Warranty	4
1.2	Purpose	4
1.3	Scope	4
1.4	Definitions, Acronyms, and Abbreviations	4
1.5	References	5
1.6	Related Documents	5
2.	About This Release	5
3.	Compatible Products	5
4.	Known Issues, Workarounds and Limitations	5
4.1	Defects	6
4.2	Known workarounds	6
4.3	Limitations	6
5.	Software Executable File	6
5.1	File Nomenclature	6
5.2	File Location	6
5.3	File Format	6
5.4	File Checksum/Validation	6
6.	Target Device	7
7.	Release Materials	7
7.1	Programing Instructions	7
7.2	Physical Media Materials	7
7.3	Performing the Upgrade	8
7.4	Release Contents	8
	Revision History	12

1. Introduction

1.1 *Disclaimer of Warranty*

Thales Defense & Security, Inc. makes no representations or warranties, either expressed or implied, by or with respect to anything in this document, and shall not be liable for any implied warranties of merchantability or fitness for a particular purpose or for any indirect, special or consequential damages.

Copyright © 2023, Thales Defense & Security, Inc.

All rights reserved.

GOVERNMENT RIGHTS LEGEND: Use, duplication or disclosure by the U.S. Government is subject to restrictions set forth in the applicable Thales Defense & Security, Inc. USA license agreement and as provided in DFARS 227.7202-1(a) and 227.7202-3(a) (1995), DFARS 252.227-7013(c)(1)(ii) (Oct 1988), FAR 12.212(a) (1995), FAR 52.227-19, or FAR 52.227-14, as applicable.

"Thales Defense & Security, Inc." and Thales Defense & Security, Inc.'s products are trademarks of Thales Defense & Security, Inc. References to other companies and their products use trademarks owned by the respective companies and are for reference purpose only.

1.2 *Purpose*

The purpose of the Release Notes Document is to communicate major new features and changes in this release. It also documents known problems and workarounds.

1.3 *Scope*

This document describes the *MissionLINK 200 & 700 and VesseLINK 200 & 700, Release 2.5.0.0*

1.4 *Definitions, Acronyms, and Abbreviations*

API – Application Programming Interface

ARM - Name given to our onboard processor

BCX – Broadband Core Transceiver

BDU – Below Deck Unit

DHCP – Dynamic Host Configuration Protocol

DTMF – Dual Tone Multi Frequency

HGA – High Gain Antenna

IP – Internet Protocol (in our case, referencing IPv4 or Internet Protocol version 4)

GLONASS – GLObal NAVigation Satellite System

GNSS – Global Navigation Satellite System

REPRODUCED COPIES ARE NOT CONTROLLED

OT45-015D, Software Release Document, Rev. 1, Date: 9/9/2022

GPS – Global Positioning Satellite
GRE - Generic Routing Encapsulation
LAN – Local Area Network
LGA – Low Gain Antenna
POTS – Plain Old Telephone System
PTT – Push to Talk
SDF – Secondary Data Flow
WAN – Wide Area Network

1.5 *References*

DFARS 227.7202-1(a)
227.7202-3(a) (1995)
DFARS 252.227-7013(c)(1)(ii) (Oct 1988),
FAR 12.212(a) (1995)
FAR 52.227-19, or FAR 52.227-14]

1.6 *Related Documents*

2. **About This Release**

2.5.0.0 includes a few features and some improvements to current operation. The features include a graceful shutdown that assures all resources are released safely, two new LED color for better diagnosis of issues from the LED, better general boot up stability for terminal analysis if it fails at boot up and a new method to reboot only some processors so the terminal doesn't required a reboot for any configuration changes. Some defects were fixed that makes using the Management Portal easier by checking for bad entries into whitelisting, clearing unnecessary alarms, better antenna version coordination, and some routing protocol fixes.

3. **Compatible Products**

This product has been tested on the following platforms or with the following products or platforms:

- MissionLINK 350/700 - MF350BV
- VesseLINK 350/700 - VF350BM
- MissionLINK 200 – MF200BV

- VesseLINK 200 – VF200BM

4. Known Issues, Workarounds and Limitations

Defects

MTU Size:

On the default data route, the maximum MTU size, based on ICMP MTU size, is 1468.

Secondary Data flows can handle a maximum MTU size of 1472 bytes based on ICMP MTU size.

Short leakage of data:

When Data disabled, the configuration of WAN priority, SAT secondary, and enabling data may allow data from a connected device to pass through the satellite until the WAN connection establishes.

Disabled ports enabled while port refreshes (IC-3004):

Changing routing for SDFs to map them to a port may cycle disabled LAN ports to on before turning them back off

Known workarounds

Handset:

Static Addressing not Available on Surelink (IC-2584): SureLINK supports only dynamic addressing. SureLINK will not operate unless DHCP is turned on in the BDU. However, with the Introduction of ADB in this release, comes the ability to push shell scripts onto the SureLINK Handset as well as modify the IP address of the SureLINK using the "ip addr" commands. For static addressing on the SureLINK handset, customers will be directed to contact Thales for a patch.

4.1 *Limitations*

- None

5. Software Executable File

5.1 *File Nomenclature*

thaleslink_2.5.0.0.swu

5.2 *File Location*

Internal Location: https://tdsi/artifactory/iridium-certus/releases/release/2.5.0/2.5.0.0/thaleslink_2.5.0.0.swu

Public Location: Released on the Thales Customer Support portal for signed resellers.

5.3 *File Format*

Encrypted compressed archive file

5.4 *File Checksum/Validation*

SHA-1: 4c3858141a6d779f80830c84c55805745049a9b7

REPRODUCED COPIES ARE NOT CONTROLLED

OT45-015D, Software Release Document, Rev. 1, Date: 9/9/2022

6. Target Device

This software runs on the processors in the MF350BV, VF350BM, MF200BV, and VF200BM satellite systems. See the User's manual for installation procedures.

7. Release Materials

7.1 *Programing Instructions*

Programming follows the procedures in the User's Guide, 84468, in section 5 -1. Those instructions are copied here:

1. With PC or Mobile Device connect to "ThalesLINK" on Wi-Fi or via Ethernet (RJ-45) port.
2. Open a web browser and type: <http://portal.thaleslink> (do not type .com or any other extension)
3. Once prompted enter Username and Password.
4. Navigate to the SYSTEM → Firmware
5. Select CHOOSE FILE.
6. Go to File Input and select the Browse button.
7. Navigate to location of downloaded file. This file should have the firmware version and ".swu" as the file extension
 - Example: thaleslink_2.4.0.0.swu
8. Select the "SELECT" button
9. After file has been selected return to the Firmware page.
10. Select "UPLOAD FIRMWARE" button. This may take a few seconds as a progress bar moves across the page
11. Once staged the Firmware page will display "UPDATE STAGED" (At this point user will be able to see Current and New Versions side by side on the Firmware page)
12. Select "RUN"
13. Once YES, UPDATE is selected, the process to Update Firmware has begun and will take approximately 10 to 15 minutes to complete. *DO NOT REMOVE POWER DURING THIS PHASE*

REPRODUCED COPIES ARE NOT CONTROLLED

OT45-015D, Software Release Document, Rev. 1, Date: 9/9/2022

MF350BV, VF350BM, MF200BV and VF200BM Software Release Document TemplateDocument	Ver. M	Rev. Date <3/22/23>	Doc. No. 6157437
---	-----------	------------------------	---------------------

14. Once completed and the system reboots, wait for all the Status LEDs to go Solid Green and/or Blue. This may take a couple minutes.
15. Verify Firmware Update by connecting to “ThalesLINK” on Wi-Fi or Ethernet port.
16. Open a web browser and type: <http://portal.thaleslink> (do not type .com or any other extension).
17. Once prompted enter the admin Password (this will not change from before the firmware update).
18. Navigate to the SYSTEM→ Firmware to view updates. (Software versions can also be found in the ABOUT menu item.)

7.2 Physical Media Materials

None

7.3 Performing the Upgrade

See Section 7.1

7.3.1 Security, privacy, or safety precautions relevant to the installation.

None

7.3.2 Identification of other changes that have to be installed for this version to be used.

None

7.3.3 Instructions for installing the software version.

See Section 7.1

7.3.4 Procedures for determining whether the version has been installed properly.

See Section 7.1

7.3.5 A point of contact to be consulted if there are problems or questions with the installation.

If there are problems or questions with the installation, contact Thales Customer Service: Customer.Service@thalesdsi.com.

7.4 Release Contents

The following fixes are delivered with this software.

Defects and features added from 2.5.0.0:

Defects Fixed:

IC-2913: Blacklisting and Whitelisting rejects IP Address entries - The current whitelisting and blacklisting does not return addresses for blacklisted URLs from

REPRODUCED COPIES ARE NOT CONTROLLED

OT45-015D, Software Release Document, Rev. 1, Date: 9/9/2022

the DNS on the terminal and only returns IP addresses for URLs in the whitelist. This implementation does not block addresses. To remove that confusion, the Management Portal and API reject IP Addresses as entries.

IC-2916: Port Blocking apply sometimes fails - The terminal would sometimes fail to store port whitelisting changes. This software addresses a timing issue that caused this issue.

IC-2948: Cable loss Alert Cleared When Problem Fixed - The terminal alarms when there is too much loss on the cable between the BDU and the above deck unit. The alarm required a reboot to clear. This release will clear the alarm when the problem is resolved without requiring a reboot.

IC-2952: BDU Parameters Added to System Log - The logs now contain terminal information like product ID and serial number at startup.

IC-2971, IC-2973: Antenna Having the Wrong Software or No Software at all - The antenna has lost its software or the terminal has pushed the wrong software to the antenna. The terminal now identifies missing or the wrong software and reloads the correct software to the antenna.

DHCP Reservation Doesn't Reserve the Address: The issue has been resolved.

IC-2707: WAN using Static Routes Works Even When Backhaul is Added Later - The terminal now routes data through the WAN port when the WAN access network is connected after the terminal is operational.

IC-2906 - IPsec supports Cisco AnyConnect - IP NAT rules interfered with IKE/IPsec messaging.

IC-3000: IP address changes to the GRE or ESP setting on the Management Portal failed to apply - The Management Portal works as expected.

IC-2895, IC-2892: A Network Change can Invalidate Static Routes - If a network is changed to a different subnet, all SDFs and related provisioning that is no longer within a valid network range is now removed.

IC-2852: HW Time Drift fixed - The hardware clock that is maintained by the holdup battery was updated with GNSS time once every 11 minutes. When a terminal was not up for more than 11 minutes, that clock lost time and the system time drifted. The update time was changed.

Feature Additions:

Graceful Shutdown: Graceful shutdown allows the processes to save their data and terminate before the terminal removes power from the processors. This feature

works for front button pushes, accessory line shutoff, Management Portal shutdowns, and API shutdowns. A total of 200ms of delay is added to the shutdown time for button presses and accessory line shutoffs. API and Management Portal shutdowns can take up to 30 seconds to shutdown. It is safe to remove power after five seconds of shutdown initiation by any of the above options.

Yellow LED lights: The LED lights on the BDU are a key debugging feature. For items that don't require immediate attention, like the modem failing to upgrade, the far left system LED will turn yellow to indicate that something needs to happen but your terminal is operating fine. In the example of the modem failing to upgrade, a reboot of the terminal should clear that issue. Other reasons to see a yellow light include an IMEI/IMSI mismatch, the antenna didn't upgrade software, the data cap has been reached, the terminal needs a reboot, and there is an invalid time on the terminal.

Magenta LED light: The LED lights on the BDU are a key debugging feature. For a Hardware defect error that most likely requires the terminal to be returned back to Thales for service, the far left LED displays a magenta color. This LED is associated with a processor not booting correctly. If factory resets, software reverts, and reboots don't clear the issue, the terminal should be returned to Thales.

Boot up Stability (IC-2886): The terminal can get into a state that makes it difficult to debug or patch a problem. This feature separates the interconnection of the main processors. When one processor has troubles booting or requests a reboot, the other processor will be able to bring the terminal to a stable debug condition, if it failed to correct the problem itself, so that Thales can help recover the terminal.
Note: Settings may not apply when both processes are not booted.

General Stability: The terminal stability feature isolates the major processor from depending on each other at startup. Changes formally requiring a terminal reboot, like a change in LAN addressing, now reboot only the processor requiring the reboot, which decreases configuration time. After about 15-20 seconds, the system will come back up with the new settings. Note: Independent processor reboots will cause a temporary power interruption on the PoE connections and connected devices will likely reboot.

Adjustable SDF Networks (IC-2844): Secondary Data Flows can now be placed onto different networks. By doing this, Each SDF can be placed on a different network and each network operate independently.

Manual Updates: All manuals found on the help page have been updated to include new terminal features.

Open Issues:

See section 4 Known Issues, Workarounds and Limitations

MF350BV, VF350BM, MF200BV and VF200BM Software Release Document TemplateDocument	Ver. M	Rev. Date <3/22/23>	Doc. No. 6157437
---	-----------	------------------------	---------------------

Revision History

Rev.	Author	Change Description
1	R. Kaiser S. Noel P. Ross M. Blanchard L. Wang	Initial release. Combined Release Notes and Document into one Release Doc; From earlier Release Doc, removed all sections except Software Executable File, Target Device, Upgrade Instructions, and Programing Instruction. This obsoletes OT45-002B Release Notes and OT45-002A Release Document. Updated based upon feedback from Jennifer Randall to better serve external customer needs.

REPRODUCED COPIES ARE NOT CONTROLLED

OT45-015D, Software Release Document, Rev. 1, Date: 9/9/2022