RICOH Technical Bulletin

Reissued: 25-Sep-08

Model: VM Option Type F/G	Date: 16-Jul-08	No.: RD377001b

Subject: Firmware Release Note: VM card option Type F/G	Prepared by: K. Moriizumi
From: 1st Tech. Support Sec. Service Support Dept.	

Classification:	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Product Safety	☒ Other ( )	☐ Tier 2

This RTB has been issued to announce the firmware release information for the firmware update package for the VM card Type F/G.

Version	Program No.	Effective Date
4.08	*D3775911_V408-01*	*September 2008 production*
4.07	D3775911_V407-01	August 2008 production
4.06	D3775911_V406-01	July 2008 production
4.05	D3775911_V405-01	June 2008 production
4.04	D3775911_V404-01	April 2008 production
4.03	D3775911_V403-01	February 2008 production
4.02	-	1st Mass production.

Version	Modified Points or Symptom Corrected
4.08	*Other changes:* 1. *The speed of switching between SDK applications is faster than before.* *Note: To use this, "Embedded Software Architecture SD card Ver.4.08 (SDK/J SDcard Ver.4.08 or later)" and the following system firmware needs to be applied to the device.* - *AL-C1: System firmware version 1.06 or later* - *V-C1: System firmware version 1.06 or later* - *R-C5: System firmware version 1.12 or later* *Supported for the specification changes of Remote Manager.*
4.07	Other changes: Minor changes applied for DSDK application developers.
4.06	Other Changes: (Minor changes applied for DSDK applications).
4.05	Other Changes: (Minor changes applied for DSDK applications).
4.04	Other Changes: (Minor changes applied for DSDK applications).
4.03	Other Changes: (Minor changes applied for DSDK applications).
4.02	1st Mass production.

Technical **B**ulletin

Model: VM Option TypeF	Date: 27-Nov-08	No.: RD377002

Subject: HDD format procedure with DSDK application	Prepared by: K. Moriizumi
From: 1st Tech. Support Sec. Service Support Dept.	

Classification:	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☒ Retrofit information
	☐ Product Safety	☐ Other ( )	☒ Tier 2

Do the following to format the HDD when a DSDK application is installed:

1. Check the VM type.
   - For the following VM types, do **Procedure 1** on the next page.
     - Type A (ver.1.x)
     - Type B (ver.1.x)
     - Type C (before ver.2.14)
     - Type D (before ver.2.14)
     - Type F (ver.4.0x)
     - Type G (ver.4.0x)
     - Type H (before ver.4.13)
     - Type I (before ver.4.13)
     - Type J (before ver.5.01)

   - For the following VM types, do **Procedure 2** on the next page.
     - Type C (after ver.2.15)
     - Type D (after ver.2.15)
     - Type H (after ver.4.14)
     - Type I (after ver.4.14)
     - Type J (after ver.5.02)

2. Check the installation location of the DSDK application.
   - If the DSDK application is installed on the HDD, do **Procedure 1** on the next page.

Procedure 1:

1. Back up any settings and data that the DSDK application has stored on the HDD.

2. Disable and uninstall all DSDK applications.

3. Turn off the machine main power.

4. Remove the Java VM card from the service slot (Slot 2 on most machines).

5. Turn on the machine main power.

6. Format the HDD with **SP5-832-001.**

7. Turn off the machine main power.

8. Reinsert the Java VM card into the service slot.

9. Turn on the machine main power.

10. Install the DSDK application and restore the settings and data backed up in Step 1 to the HDD.

Procedure 2:

1. Back up any settings and data that the DSDK application has stored on the HDD.

2. Disable all DSDK applications.

3. Format the HDD with **SP5-832-001.**

4. Turn the machine main power off/on.

5. Restore the settings and data backed up in Step 1 to the HDD.

Model: VM Option TypeF	Date: 27-Nov-08	No.: RD377003

Subject: Main frame firmware updating procedure	Prepared by: K. Moriizumi
From: 1st Tech. Support Sec. Service Support Dept.	

Classification:	☒ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☒ Retrofit information
	☐ Product Safety	☐ Other ( )	☒ Tier 2

Do the following to update the firmware if a DSDK application is installed.

Note: You do not need to uninstall the DSDK application in order to update the firmware.

Check the SDK application.

- When the DSDK application is Card Authentication Package, do **Procedure 1**.
- When the DSDK application is not Card Authentication Package, do **Procedure 2**.

Procedure 1:

1. Turn off "Enhanced Authentication Management".
2. Turn off the machine main power.
3. Remove the Java VM card from the service slot (Slot 2 on many models).
4. Insert the SD card containing the firmware into the service slot.
5. Turn on the machine main power.
   Note: The firmware will automatically be updated as the machine boots up.
6. Turn off the machine main power.
7. Remove the SD card from the service slot.
8. Reinsert the Java VM card into the service slot.
9. Turn on the machine main power.
10. Turn on "Enhanced Authentication Management".

Procedure 2:

1. Turn off the machine main power.
2. Remove the Java VM card from the service slot (Slot 2 on many models).
3. Insert the SD card containing the firmware into the service slot.
4. Turn on the machine main power.

Model: VM Option TypeF	Date: 27-Nov-08	No.: RD377003

Note: The firmware will automatically be updated as the machine boots up.

5. Turn off the machine main power.

6. Remove the SD card from the service slot.

7. Reinsert the Java VM card into the service slot.

8. Turn on the machine main power.

Reissued: 07-May-09

Model: VM Option Type F/GH/I	Date: 12-Aug-08	No.: RM344001c

RTB Reissue

The items in bold italics have been corrected.

Subject: Firmware Release Note: VM Option Type F/GH/I		Prepared by: K. Moriizumi
From: 1st Tech. Support Sec. Service Support Dept.		
Classification:	☐ Troubleshooting ☐ Mechanical ☐ Paper path ☐ Product Safety	☐ Part information ☐ Electrical ☐ Transmit/receive ☒ Other ( )	☐ Action required ☐ Service manual revision ☐ Retrofit information ☒ Tier 2

This RTB has been issued to announce the firmware release information for the firmware update package for the **VM Option Type F/GH/I**.

Version	Program No.	Effective Date
4.15	*D3775911_V415-01*	*April 2009 production*
4.14	D3775911_V414-01	January 2009 production
4.13	D3775911_413-01	September 2008 production
4.12	D3775911_412-01	April 2008 production
4.11	-	1st Mass production.

Version	Modified Points or Symptom Corrected
4.15	*Symptom corrected:* *1. Users might not be logged out if both of the following conditions were met:* *1) The user had been logged in via Usercode Authentication.* *2) The operation panel was displaying the interface for the SDK/J applications such as Enhanced Locked Print NX or Global Scan NX.* *2. After recovering from Energy Saver mode, the device is unable to switch between different SDK/J applications.* *3. The software keyboard appears and cannot be closed after accessing a SDK application.* *This issue may occur as the result of the following procedure:* *1) Open the software keyboard using a SDK application, such as GlobalScan NX.* *2) Press either the "OK" or the "Cancel" button on the software keyboard.* *3) Select a standard MFP application (e.g. Copy, Print, etc).* *4) Select the SDK application again.* *5) The software keyboard will automatically appear, and cannot be closed.* *Note: If the SDK application is busy processing a difficult task (such as a fax job for GlobalScan NX), the chances of this issue occurring will increase significantly.* *4. There is a memory leak when an SDK application attempts to open a software keyboard but fails.* *This issue may occur as the result of the following procedure:* *1) Touch the user name field to open the software keyboard and input a*

Model: VM Option Type F/GH/I	Date: 12-Aug-08	No.: RM344001c

Version	Modified Points or Symptom Corrected

	user name.
	   2) Attempt to open a second software keyboard in order to input a
	     password.
	   3) The keyboard will fail to open, and 350 bytes of memory will be leaked.
	Once the issue develops, the software keyboard will not open again until the
	MFP is restarted.
	5. An SC997 error will occur after logging out of the MFP, requiring a restart.
	   Affected products
	   Any 07A or 08S MFPs using GlobalScan NX SDK application version
	   1.1.1.0 or later.
	   Conditions
	     1) 07A models (R-C5, AL-C1, V-C2) and 08S models (DI-C1, AT-C2, AP-
	       C2).
	     2) When using any of the following Authentication methods:
	         *Admin Authentication
	         *User Authentication
	         *Basic code Authentication
	     3) GlobalScan NX is running on the MFP.
	     4) Users or Admins must repeatedly login and out of the device
	       without cycling the power. The error will be thrown after a logout.
	6. Blank Screen After Changing Language Settings
	   If a user or administrator quickly changes a MFP's language settings
	   using the User Tools/Counter/Inquiry screen, a confirmation message
	   will appear, and the MFP's display panel will be blank after finishing
	   settings when the settings screen was accessed when GlobalScan NX
	   was the active screen.
	   Reproduction Procedure:
	     1) Open GlobalScan NX on the MFP.
	     2) Open the User Tools/Counter/Inquiry screen, press the Language
	       button, then press the Exit button quickly.
	     3) "The language is switched." will appear on the display panel. This
	       message only appears if the error has occurred.
	     4) The above message will automatically disappear, and the display
	       panel will be blank.
	
	Other changes:
	1. The SDK application installation time-out has been changed from 90
	   seconds to 4 minutes.

4.14	Symptom corrected:
	1. Sometimes the display freezes if the JavaTMPlatform button is pressed twice when the main power is turned on.
	2. Users cannot login using an IC card if all of the following conditions are met:
	   -User name or password includes the 0xff character.
	   -User name or password exceeds 255 bytes.
	   -The sum of the lengths of the user name and password are exactly 247 bytes or 65527 bytes.
	3. If a job is submitted with user name and password at the same time as someone is logging into the device with an IC card, the device will stall.
	4. Card Authentication Package cannot be installed over an earlier version.

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Model: VM Option Type F/GH/I	Date: 12-Aug-08	No.: RM344001c

Version	Modified Points or Symptom Corrected
	Other changes: 1. The maximum heap memory for Model DI-C1 was increased from 24MB to 29MB. 2. Global Scan NX now supports High Compression PDF files. Note: Requires Global Scan NX version 1.2 (SDK application), System firmware (It depends on MFPs), and Embedded Software Architecture SD card Ver.4.14 (SDK/J SDcard Ver.4.14 or later). 3. Global Scan NX now supports a preview function. Note: Requires Global Scan NX version 1.2 (SDK application), System firmware (It depends on MFPs), and Embedded Software Architecture SD card Ver.4.14 (SDK/J SDcard Ver.4.14 or later). 4. New User Authentication method. The SDK/J Platform now supports Windows Authentication. 5. SDK/J start up is possible after HDD formatting Previously, the uninstallation of the SDK/J Platform (removal of the VM card from the service slot) was required before formatting the device HDD.As of version 4.14, this is no longer the case. As long as there are no SDK/J applications installed on the HDD and no applications have stored data to the HDD, the HDD can be formatted regardless of whether the SDK/J Platform is installed or not. HDD Formatting Procedure: If any SDK/J applications are installed on the HDD, follow Procedure 1.Otherwise, follow Procedure 2. Procedure 1: 1. Back up any data that needs to be restored after the format. SDK/J doesn't have a backup function. Please do this manually. 2. Stop all SDK/J applications and uninstall them. 3. Turn off the device. 4. Pull the VM card out of the service slot (usually slot 2). 5. Turn on the device. 6. Use SP5-832-001 to perform the HDD format. 7. Turn off the device. 8. Insert the VM card into the service slot. 9. Turn on the device. Install the SDK/J applications and restore the data backed up in step 1. SDK/J doesn't have a restore function. Please do this manually. Procedure 2: 1. Back up any data that needs to be restored after the format. SDK/J doesn't have a backup function. Please do this manually. 2. Stop all SDK/J applications and uninstall them. 3. Use SP5-832-001 to perform the HDD format. 4. Restart the device. 5. Restore the data backed up in step 1. SDK/J doesn't have a restore function. Please do this manually.

Reissued: 07-May-09

Model: VM Option Type F/GH/I	Date: 12-Aug-08	No.: RM344001c

Version	Modified Points or Symptom Corrected
4.13	Other changes: 1. The speed of switching between SDK applications is faster than before. Note: To use this, "Embedded Software Architecture SD card Ver.4.13 (SDK/J SDcard Ver.4.13 or later)"and system firmware (version 1.08 or later) needs to be applied to the device. 2. Supported for the specification changes of Remote Manager.
4.12	Other Changes: (Minor changes applied for DSDK applications).
01.00.00	1st Mass production.

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Technical Bulletin

Reissued: 18-Nov-09

Model: VM Option Type F/GH/I	Date: 12-Aug-08	No.: RM344001d

RTB Reissue

The items in bold italics have been corrected.

Subject: Firmware Release Note: VM Option Type F/GH/I	Prepared by: K. Moriizumi
From: 2nd Overseas Tech Support Sec., 2nd PQM Dept.	

Classification:	☐ Troubleshooting	☐ Part information	☐ Action required
	☐ Mechanical	☐ Electrical	☐ Service manual revision
	☐ Paper path	☐ Transmit/receive	☐ Retrofit information
	☐ Product Safety	☒ Other ( )	☒ Tier 2

This RTB has been issued to announce the firmware release information for the firmware update package for the **VM Option Type F/GH/I**.

Version	Program No.	Effective Date
4.17-01	*D3775911_V417-01*	*September 2009 production*
4.15	D3775911_V415-01	April 2009 production
4.14	D3775911_V414-01	January 2009 production
4.13	D3775911_413-01	September 2008 production
4.12	D3775911_412-01	April 2008 production
4.11	-	1st Mass production.

Version	Modified Points or Symptom Corrected
4.17-01	*Symptom corrected:* *1. The displayed image may appear incomplete if the power button is pressed while using an SDK application that prohibits the machine from entering Energy Saver mode.* *2. If the character string for one line of a display label is set to a length of 100 characters or more, it will appear on the operation panel as being directly connected with the following line.* *3. Cannot exit the User Tools screen while displaying a JPEG image using an SDK/J application.* *4. The display language cannot be switched to German.* *5. The device Start Key may become disabled when accessing an SDK/Type J application (e.g., GlobalScan NX).* *This issue may occur when using the default Java and SDK/Type J settings, and the following procedure is performed:* *1) Turn on the device.* *2) Switch from a device application to an SDK/Type J application after the Java VM has started-up.* *6. JPEG images may not be displayed the first time an SDK/Type J application (e.g., GlobalScan NX) is opened.* *This issue may occur when using the default Java and GlobalScan NX settings, and the following procedure is performed:* *1) Turn on the device.* *2) Switch from a device application to a SDK/J application that uses JPEG-based icons after the Java VM has started-up. JPEG images*

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Model: VM Option Type F/GH/I	Date: 12-Aug-08	No.: RM344001d

Version	Modified Points or Symptom Corrected
	will not be displayed.
	7 For about 20 seconds after a device starts up, SDK applications such as CAP might not be able to recognize whether Administrator Authentication or User Authentication is enabled or whether an admin or user has already logged in.
	8 If the User Authentication settings are changed more than 200 times without the power cycles, the device might stall or users might not be able to log out.
	9 The user can not log in via CAP-ES using the login name and password that contained the following characters are registered:
	[€], [‚], [ƒ], [„], [ˆ], [‹], [•], [–], [—], [˜], [™], [›], [¡], [¤], [¦], [©], [ª], [®], [²], [³], [´], [º], [¼], [½], [¾], [¿], [ß]
	Other changes:
	1. The speed at which the operator can switch from one SDK/J application to another has been increased.
	Important: To apply this change, in addition to this firmware, you also need to install the following:
	- ***All models: Embedded Software Architecture SD card Ver.4.08 (SDK/J SDcard Ver.4.08 or later)***
	- ***Model V-C2: System ver1.06 or later***
	- ***Model AI-C1: System ver1.06 or later***
	- ***Model R-C5: System ver1.12 or later***
	- ***Model Be-C1: System ver1.02 or later***
	2. When the operator switches from a non-SDK/J application to an SDK/J application, if one of the SDK/J applications has been set as the priority application, this application will be displayed first.
	3. The tabs on the software keyboard can now be preset.
	4. Support has been added for Embedded Software Remote Manager (Installation and Activation service tool) ver. 2.0.1 or later.
	5. Card Authentication Package / Enhanced Locked Print NX ver.1.3 are now available.
4.15	Symptom corrected:
	1. Users might not be logged out if both of the following conditions were met:
	1) The user had been logged in via Usercode Authentication.
	2) The operation panel was displaying the interface for the SDK/J applications such as Enhanced Locked Print NX or Global Scan NX.
	2. After recovering from Energy Saver mode the device is unable to switch between different SDK/J applications.
	3. The software keyboard appears and cannot be closed after accessing a SDK application.
	This issue may occur as the result of the following procedure:
	1) Open the software keyboard using a SDK application, such as GlobalScan NX.
	2) Press either the "OK" or the "Cancel" button on the software keyboard.
	3) Select a standard MFP application (ex. Copy, Print, etc).
	4) Select the SDK application again.
	5) The software keyboard will automatically appear, and cannot be closed.
	Note: If the SDK application is busy processing a difficult task (such as a fax job for GlobalScan NX), the chances of this issue occurring will increase significantly.
	4. There is a memory leak when an SDK application attempts to open a software

Model: VM Option Type F/GH/I	Date: 12-Aug-08	No.: RM344001d

Version	Modified Points or Symptom Corrected

	keyboard but fails.
	    This issue may occur as the result of the following procedure:
	    1) Touch the user name field to open the software keyboard and input a user name.
	    2) Attempt to open a second software keyboard in order to input a password.
	    3) The keyboard will fail to open, and 350 bytes of memory will be leaked.
	Once the issue develops, the software keyboard will not open again until the MFP is restarted.
	5. An SC997 error will occur after logging out of the MFP, requiring a restart.
	    Affected products
	    Any 07A or 08S MFPs using GlobalScan NX SDK application version 1.1.1.0 or later.
	    Conditions
	        1) 07A models (R-C5, AL-C1, V-C2) and 08S models (DI-C1, AT-C2, AP-C2).
	        2) When using any of the following Authentication methods:
	                *Admin Authentication
	                *User Authentication
	                *Basic code Authentication
	        3) GlobalScan NX is running on the MFP.
	        4) Users or Admins must repeatedly login and out of the device without cycling the power. The error will be thrown after a logout.
	6. Blank Screen After Changing Language Settings
	    If a user or administrator quickly changes a MFP's language settings using the User Tools/Counter/Inquiry screen, a confirmation message will appear, and the MFP's display panel will be blank after finishing settings when the settings screen was accessed when GlobalScan NX was the active screen.
	    Reproduction Procedure:
	        1) Open GlobalScan NX on the MFP.
	        2) Open the User Tools/Counter/Inquiry screen, press the Language button, then press the Exit button quickly.
	        3) "The language is switched." will appear on the display panel. This message only appears if the error has occurred.
	        4) The above message will automatically disappear, and the display panel will be blank.
	
	Other changes:
	1. The SDK application installation time-out has been changed from 90 seconds to 4 minutes.

4.14	Symptom corrected:
	1. Sometimes the display freezes if the JavaTMPlatform button is pressed twice when the main power is turned on.
	2. Users cannot login using an IC card if all of the following conditions are met:
	        -User name or password includes the 0xff character.
	        -User name or password exceeds 255 bytes.
	        -The sum of the lengths of the user name and password are exactly 247 bytes or 65527 bytes.
	3. If a job is submitted with user name and password at the same time as someone is logging into the device with an IC card, the device will stall.
	4. Card Authentication Package cannot be installed over an earlier version.

Reissued: 18-Nov-09

Model: VM Option Type F/GH/I	Date: 12-Aug-08	No.: RM344001d

Version	Modified Points or Symptom Corrected
	Other changes: 1. The maximum heap memory for Model DI-C1 was increased from 24MB to 29MB. 2. Global Scan NX now supports High Compression PDF files. Note: Requires Global Scan NX version 1.2 (SDK application), System firmware (It depends on MFPs), and Embedded Software Architecture SD card Ver.4.14 (SDK/J SDcard Ver.4.14 or later). 3. Global Scan NX now supports a preview function. Note: Requires Global Scan NX version 1.2 (SDK application), System firmware (It depends on MFPs), and Embedded Software Architecture SD card Ver.4.14 (SDK/J SDcard Ver.4.14 or later). 4. New User Authentication method. The SDK/J Platform now supports Windows Authentication. 5. SDK/J start up is possible after HDD formatting Previously, the uninstallation of the SDK/J Platform (removal of the VM card from the service slot) was required before formatting the device HDD.As of version 4.14, this is no longer the case. As long as there are no SDK/J applications installed on the HDD and no applications have stored data to the HDD, the HDD can be formatted regardless of whether the SDK/J Platform is installed or not. HDD Formatting Procedure: If any SDK/J applications are installed on the HDD, follow Procedure 1.Otherwise, follow Procedure 2. Procedure 1: 1. Back up any data that needs to be restored after the format. SDK/J doesn't have a backup function. Please do this manually. 2. Stop all SDK/J applications and uninstall them. 3. Turn off the device. 4. Pull the VM card out of the service slot (usually slot 2). 5. Turn on the device. 6. Use SP5-832-001 to perform the HDD format. 7. Turn off the device. 8. Insert the VM card into the service slot. 9. Turn on the device. Install the SDK/J applications and restore the data backed up in step 1. SDK/J doesn't have a restore function. Please do this manually. Procedure 2: 1. Back up any data that needs to be restored after the format. SDK/J doesn't have a backup function. Please do this manually. 2. Stop all SDK/J applications and uninstall them. 3. Use SP5-832-001 to perform the HDD format. 4. Restart the device. 5. Restore the data backed up in step 1. SDK/J doesn't have a restore function. Please do this manually.

Technical **B**ulletin

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Model: VM Option Type F/GH/I	Date: 12-Aug-08	No.: RM344001d

Version	Modified Points or Symptom Corrected
4.13	Other changes: 1. The speed of switching between SDK applications is faster than before. Note: To use this, "Embedded Software Architecture SD card Ver.4.13 (SDK/J SDcard Ver.4.13 or later)"and system firmware (version 1.08 or later) needs to be applied to the device. 2. Supported for the specification changes of Remote Manager.
4.12	Other Changes: (Minor changes applied for DSDK applications).
01.00.00	1st Mass production.

```
=============================================================================
*** Basic Information ***
=============================================================================
[Create date] 2020/01/06
-----------------------------------------------------------------------
[Program Name] Java VM v4 std UpdateTool
-----------------------------------------------------------------------
[Version] 4.32.00
-----------------------------------------------------------------------
[PCB No.]
-----------------------------------------------------------------------
[Interchangeability] X / O
-----------------------------------------------------------------------
[Other Firmware Requirements] None
-----------------------------------------------------------------------
[PCB Requirements] None
-----------------------------------------------------------------------
[Software category] Normal Release
-----------------------------------------------------------------------
[Release category] Normal Release
-----------------------------------------------------------------------
[Program category] Firmware
-----------------------------------------------------------------------
Exported to(language) GEN(all)
[Firmware No.] D3775918N_upd
[File Information]
 File Name        D3775918N_upd.exe
 File Type        Module for Service
 Size             15.71 MB ( 16469696 byte )
 Check Sum -8Bit Sum: 456C
         -16Bit Sum(Little Endian): C635
         -16Bit Sum(Big Endian): EB37
[Availability of RFU] No
-----------------------------------------------------------------------
[Production reflection]
-----------------------------------------------------------------------


=============================================================================
*** Note ***
=============================================================================
[Note]

-----------------------------------------------------------------------



=============================================================================
*** Important Notes ***
=============================================================================
[Important Notes]

-----------------------------------------------------------------------



=============================================================================
*** Modification History ***
=============================================================================
```

[Modifications made:]
Rank C

Other changes:
- Modification was made for the firmware part number management.

[Modification history]

Version 4.31.01
Rank C

Symptom corrected:
- When the amount of file descriptor, used on JavaVM, is 256 or more,
  a certain print command from the SDK application might cause an error.
- Max. Email Size for scanner send settings cannot be configure via DMNX.
- Errors might be occured by using the Globalscan.

Other changes:
- When using the Stream Line NX ver3 for a certain amount of time,
  SC899 or "Functional Error. Please restart device" message might
  be displayed.

Version 4.30.00
 Error corrected:
- SDK platform may not boot up when next power-on if stopping start
  process of SDK app.

Version 4.29.00
Fixed:
When a device failed to reboot after receiving a reboot request from
a device management application, installed ESA applications would
not restart automatically and remained in "Stopped" status.

Version 4.28.00
Fixed:
1. When tracking is enabled using usage control service, incorrect
   scanning paper size information is sent from ESA application
   which is installed on A4 models.
2. Unlock the application switching function might results in
   "NullPointerException" error.
3. When ESA application sends a FAX job using multibyte character set,
   the sender is garbled on the recipient device.
4. AES-256 may be used as Kerberos encryption algorithm even though it
   is not specified.

Version 4.27.00
Fixed:
More internal resources are consumed than required during internal

file open and close operations, such as SDK application installation.
This could result in unexpected behavior.

Version 4.26.05
Fixed:
- Kerberos authentication using AES128/AES256 results are slow
  compared to Kerberos authentication using RC4HMAC.
- Saved passwords cannot be retrieved properly and causes application
  authentication failure.
- SDK application installation infrequently results in the disappearance
  of a previously installed SDK application if multiple embedded
  programs are installed.
- The device's operation panel sometimes freezes when the software
  keyboard is closed.

Version 4.25.07a
Symptom corrected:
Program number "D3775901" version update fails.

Version 4.25.07
Symptom corrected:
1. SDK/J starting logo screen does not change.
2. Vulnerability to the re-negotiation of SSL/TLS.
3. Other minor bugs corrections.

Other changes:
Kerberos certification corresponding to RC4-HMAC code form.

Version 4.24.03
Symptom corrected:
1. Remote Manager v2 may not be able to communicate with the device
   if it takes more than 1 minute to assign the device an IP address
   via DHCP.
2. Users are not logged out after pressing the "Logout" button on
   the "User Tools" screen when using CAP with basic authentication.
3. If a user was logged in when the On/Off button is used to turn
   the device off, the "Cannot Logout" message is displayed the next
   time the On/Off button is used to turn the device on. The message
   is displayed even though the user has been logged out.
4. An SSL connection cannot be established if a x509 certificate is
   used but contains a "CRL Distribution Point".

Other changes:
Support for eDC-i1.2 and Remote Install Manager V1.1 was added.

Version 4.23.00
Minor bug correction

Version 4.22.03
Fixed:
1. The SDK application may not load after turning the device on.
2. The JavaVM would not update the DNS server address after the
   initial cache, which could eventually prevent the SDK application
   and DNS server from communicating.

Note: This issue does not affect the device's ability to communicate
with the DNS server.

Version 4.21.05
Fixed:
1. If the SD card slot specified for remote installation of a Type 2
   (Java-based) SDK application does not exist on the target device,
   the application will be installed on a an SD card inserted in a
   different slot.
2. The Java VM may enter a deadlock state if one thread tries to
   close a thread that is waiting for I/O data.
3. he username used for Basic Authentication cannot be displayed
   correctly on the MFP's display panel if the username is 20
   characters (bytes) long.
4. If the auto-off timer of the device is set to 1 minute and any
   SDK application is set to automatically start up, SC997 can occur.
5. The USB card reader may stop working if plugged in immediately
   after being unplugged.

Version 4.20.04
Fixed:
1. If the machine is turned off just after entering Energy Saver
   mode, it will not be able to enter Energy Saver mode from that
   point on (the SDK Java platform cannot be started).
2. Wording errors in the display messages used in the SDK
   application initial settings screen.
3. Installation fails if the FAT block of the SD card is less then
   1024 bytes (1KB).
4. When the two processes listed below occur simultaneously, the MFP
   might enter Sleep mode.
   - The MFP tries to enter Energy Saver mode.
   - An SDK application (running on the same MFP) tries to prevent
     the MFP from entering Energy Saver mode.
5. When User Code Authentication is used by a MFP and an SDK
   application installed on that MFP, users are logged out of the
   SDK application if the MFP's embedded scanner application's
   destination registration function ("Prg. Dest." button) is used.
6. The "NullPointerException" warning appears when using CAP/CAP-ES
   Card Registration Tool v1.3 and the MFP is set to Chinese
   language.

```
================================================================
*** Basic Information ***
================================================================
[Create date] 2020/01/06
----------------------------------------------------------------
[Program Name] Java VM v4 std for eDC
----------------------------------------------------------------
[Version] 4.32.00
----------------------------------------------------------------
[PCB No.]
----------------------------------------------------------------
[Interchangeability] X / O
----------------------------------------------------------------
[Other Firmware Requirements] None
----------------------------------------------------------------
[PCB Requirements] None
----------------------------------------------------------------
[Software category] Normal Release
----------------------------------------------------------------
[Release category] Normal Release
----------------------------------------------------------------
[Program category] Firmware
----------------------------------------------------------------
Exported to(language) GEN(all)
[Firmware No.] D3775918N_edc
[File Information]
 File Name        D3775918N_edc.ifu
 File Type        Module for Service
 Size            15.93 MB ( 16702348 byte )
[Availability of RFU] No
----------------------------------------------------------------
[Production reflection]
----------------------------------------------------------------


================================================================
*** Note ***
================================================================
[Note]

----------------------------------------------------------------



================================================================
*** Important Notes ***
================================================================
[Important Notes]

----------------------------------------------------------------



================================================================
*** Modification History ***
================================================================
[Modifications made:]
Rank C
```

Other changes:
- Modification was made for the firmware part number management.

[Modification history]

Version 4.31.01
Rank C

Symptom corrected:
- When the amount of file descriptor, used on JavaVM, is 256 or more,
  a certain print command from the SDK application might cause an error.
- Max. Email Size for scanner send settings cannot be configure via DMNX.
- Errors might be occured by using the Globalscan.

Other changes:
- When using the Stream Line NX ver3 for a certain amount of time,
  SC899 or "Functional Error. Please restart device" message might
  be displayed.

Version 4.30.00
Error corrected
SDK platform may not boot up when next power-on if stopping start
process of SDK app

Version 4.29.00
Fixed:
When a device failed to reboot after receiving a reboot request from
a device management application, installed ESA applications would
not restart automatically and remained in "Stopped" status.

Version 4.28.00
Fixed:
1. When tracking is enabled using usage control service, incorrect
   scanning paper size information is sent from ESA application
   which is installed on A4 models.
2. Unlock the application switching function might results in
   "NullPointerException" error.
3. When ESA application sends a FAX job using multibyte character set,
   the sender is garbled on the recipient device.
4. AES-256 may be used as Kerberos encryption algorithm even though it
   is not specified.

Version 4.27.00
Fixed:
More internal resources are consumed than required during internal
file open and close operations, such as SDK application installation.
This could result in unexpected behavior.

Version 4.26.05
Fixed:
1. Saved passwords cannot be retrieved properly and causes
   application authentication failure.
2. SDK application installation infrequently results in the
   disappearance of a previously installed SDK application if
   multiple embedded programs are installed.
3. The device's operation panel sometimes freezes when the software
   keyboard is closed.

Version 4.25.07
*This module is for Remote Install Manager and updating Java VM.

Symptom corrected:
1. SDK/J starting logo screen does not change.
2. Vulnerability to the re-negotiation of SSL/TLS.
3. Other minor bugs corrections.

Other changes:
Kerberos certification corresponding to RC4-HMAC code form.

Version 4.24.03
Initial release