



CCEVS Approved Assurance Continuity Maintenance Report

Product: Lexmark X548, XS548, X748, X792, XS796, X925, XS925, X950, X952, X954, XS955 and 6500e Scanner (with T650, T652, or T654) Multi-Function Printers

EAL: 2 augmented with ALC_FLR.2

Date of Activity: 22 October 2014

Record ID: CCEVS-VR-VID10456-2014

References: Common Criteria Evaluation and Validation Scheme - Assurance Continuity: Guidance for Maintenance and Re-evaluation, Version 2.0 , September 8, 2008
Impact Analysis Report for Lexmark X548, XS548, X748, X792, XS796, X925, XS925, X950, X952, X954, XS955 and 6500e Scanner (with T650, T652, or T654) Multi-Function Printers, IAR Version 1.1, September 22, 2014

Documentation Updated: Lexmark X548, XS548, X792, XS796, X925, XS925, X950, X952, X954, XS955 and 6500e Scanner (with T650, T652, or T654 Printer) Multi-Function Printers Security Target, Version 1.11, September 22, 2014
Lexmark X548, XS548, X748, X792, XS796, X925, XS925, X950, X952, X954, XS955 and 6500e Scanner (with T650, T652, T654, or T656 Printer) Multi-Function Printers Configuration Item List, Version 1.3, dated September 22, 2014
Lexmark X548, XS548, X748, X792, XS796, X925, XS925, X950, X952, X954, XS955 and 6500e Scanner (with T650, T652, T654, or T656 Printer) Multi-Function Printers Test Results, Version 1.2, dated September 22, 2014

I. Introduction

On 22 September 2014, Lexmark submitted an Impact Analysis Report (IAR) to CCEVS for approval. The IAR is intended to satisfy requirements outlined in Common Criteria Evaluation and Validation Scheme - Assurance Continuity: Guidance for Maintenance and Re-evaluation, Version 2.0 , September 8, 2008. In accordance with those requirements, the IAR describes the changes made to the certified TOE as modified by the ACMR dated 24 September 2012, the evidence updated as a result of the changes and the security impact of the changes.

II. Changes to the TOE

Firmware changes were implemented in accordance with the following table:

Table 1: Description of Firmware Changes

Change Description
Functional Enhancements
Increased Address Book & Internal Accounts entries from 250 to 750.
Improved Managed Print Services data tracking capabilities.
Allow applications to support background processing to free the operator panel for concurrent functionality.
OCR support is now native, but requires an eSF license to activate.
Added Copy Offset to the Copy screen workflow.
Support GZIP Log Link from SE EWS on non-disk models
Added support for the N8350 wireless option.
Updated MFP Pre-installed App for Scan to Network version 4.4.12
Updated MFP Pre-installed App for Forms and Favorites version 4.2.0
Updated MFP Pre-installed App for Remote Operator Panel version 3.3.0
Updated MFP Pre-installed App for WS-Scan version 3.3.0
Updated MFP Pre-installed App for USB My MFP version 3.3.0
Added support for new 4.3 inch display hardware
Added support for Lexmark Secure Content Monitor application
Improved energy savings and compliance with new regulations
Added Timed-Hibernate feature to all devices
Added support for scan-to-MRC compression for PDFs
Walk-up ability to capture device debug logs and to export logs.tar.gz to thumbdrive from front panel
Added support for TIFF JPEG compression
Added EWS interface for RGB Replacement
Added JFIF header support for JPEG
Addressed previous AirPrint exceptions
Added Object based toner density setting
Added RGB Replacement

CCEVS VALIDATION - VID10456

Change Description
Auto mono scan detect
FoIP is now supported when the eSF license is downloaded
Include the default Custom Message in supply email alerts
Added address support for Internal Accounts
Added support for 2 new standard sizes, SRA3 and 12 x 18 inch paper
Fixes and Other Improvements
Applied security patches to bring these devices up to the latest level including Openssl CVE-2014-0224 SSL/TLS MITM vulnerability (Note: these products did not have the TLS heartbleed read overrun (CVE-2014-0160) issue.)
Fixed certificate issues
Improved disk wiping feature
Addressed authentication issues
Fixed analog Fax issues
Fixed FoIP Fax issues
Addressed shortcut issues, including the ability to select multiples.
Fixed several tray linking issues.
Addressed issues related to exiting "sleep" mode.
Fixed issues where supplies were not reporting the correct Maximum Capacity.
Fixed issues with NPA/SNMP causing a hang, if commands were sent at certain times.
Added UCF keys to the variables located on the Supplies Notification web page.
Improved translations, especially for the DBCS languages.
Improved the VLML support.
Fixed timing issues that could result in a hang or 900 Software Service Error.
Added ADF page counts to the event log for Scanner Jam events.
Improved the devices ability to cancel jobs.
Fixed Postscript issues, some of which may lead to 900.43 Service errors.
Fixed PDF errors, some may lead to Error messages or garbage output.
Fixed PCL/XL/GL issues, including the ability to suppress blank pages in XL.
Made several improvements to the Job Accounting Log.
Lowered the default sleep time-out to 20 minutes, if it was higher than that previously.
Made some changes to the Setup Wizard.
Made several framework improvements.
Improved memory usage, especially in low memory conditions.
Changed default Hibernate setting from "Disabled" to "3 days" to match other Lexmark devices. (Note that "Hibernate on Connection" default setting is still "Do Not Hibernate.")
Fixed issue when FRU RIP cards are installed and the code is at different levels
Fixed the reporting of some incorrect supply capacities on fusers and transfer belts
Fixed audio issues with the new 4.3 displays
Added support for additional OEMs
Fixed issue with page counts getting corrupted when a FRU RIP card is installed and booted into diags.
Several Translation and Text issues were addressed in several different languages
Addressed several issues with VLML
Moved various security menus items under a single menu on the front panel as well as EWS
Improved support for several card readers
Fixed issues with the 2.4 inch panel
Fixed causes of 900.30 errors

CCEVS VALIDATION - VID10456

Change Description
Fixed several "Home" screen issues
Improved support for large media (12 x18 and SRA3)
Fixed causes of 900.80 errors
Fixed scanner related issues
Fixed crashes caused by corrupt data
Fixed causes of 900.43 errors
Fixed causes of 976 errors
Fixed Fax service errors and hangs
Fixed print quality and scan quality issues
Made performance improvements
Improved Windows 8 support
Made improvements to tray linking
Made Job Accounting Log improvements
Improved Toner Usage information on some devices
Addressed issues with the diverter
Job Accounting data improvements
Fixed crashes when sending JBIG2 over spotty network
Fixed causes of 900.00 crashes
Fixed issue recognizing the Omnikey 5127ck card reader
Fixed issue trying to get DeviceInfo via web
Fixed XPS "Confidential Print" issue
Fixed cause of 900.56 errors
Fixed issue with false 956 errors
Added more text on Toner Low more info text for C95x and X95x
Fixed causes of 976 Errors
Fixed UCF webpage UCF functionality on wireless cards
Fixed cause of 982.01 errors
Fixed issue with Toner Meter Reading and toner yield issue on C/X925
Fixed causes of 900.80 crashes
Fixed cause of 902 errors
Fixed 900.10 error when mismatched size when copying from ADF-A4-Long Edge
Fixed fax issue with blue screens when it is time to send a delayed fax
Fixed Fax Hang on POR by resetting modem.
Fixed X925 Scanner jam issue that messes up job queue
Fixed X548 Rewards Program issue
Fixed black line observed on Mono copy from Letter to copy to 12 x18 and SRA3 paper sizes on X95x
Fixed issue that caused black Copies from Flatbed
Fixed X95x running EC2 has 5 second pause during mono COPY between page 1 and 2
Fixed issue with UI in Finnish language
Fixed issue in Scan to email - recipient list not clearing after email is sent
Fixed Manufacturing issue on X548
Delay waste toner box full message after the near full state is reached (X74x)
New Scan to Network app v3.2.21
Fixed intermittent Fax crash
Fixed Windows 8 issue
Fixed issue with Hard disks not showing up or causing a hang at POR

Change Description
Fixed cause of 976 Errors
Fixed 900.80 crash when using the ADF with long edge fed A4 for faxing
Improved supplies communication when exiting sleep mode
Improved security of engine communication
Eliminated hang on the Main Menu after pressing # button coming out from overnight sleep

III. Analysis and Testing

1. The firmware has been updated to fix multiple bugs. The Analysis of the firmware changes appears in the following table:

Table 2: Analysis and Rationale for the Firmware Changes

Description	Analysis and Rationale
Functional Enhancements	
Increased Address Book & Internal Accounts entries from 250 to 750.	This change increases the number of Internal Accounts supported, but does not change the underlying functionality.
Improved Managed Print Services data tracking capabilities.	This functionality is not included in the evaluated configuration.
Allow applications to support background processing to free the operator panel for concurrent functionality.	This functionality is not security relevant.
OCR support is now native, but requires an eSF license to activate.	This functionality is not security relevant.
Added Copy Offset to the Copy screen workflow.	This functionality is not security relevant.
Support GZIP Log Link from SE EWS on non-disk models	This functionality is not included in the evaluated configuration.
Added support for the N8350 wireless option.	This functionality is not included in the evaluated configuration.
Updated MFP Pre-installed App for Scan to Network version 4.4.12	This functionality is not included in the evaluated configuration.
Updated MFP Pre-installed App for Forms and Favorites version 4.2.0	This functionality is not included in the evaluated configuration.
Updated MFP Pre-installed App for Remote Operator Panel version 3.3.0	This functionality is not included in the evaluated configuration.
Updated MFP Pre-installed App for WS-Scan version 3.3.0	This functionality is not included in the evaluated configuration.
Updated MFP Pre-installed App for USB My MFP version 3.3.0	This functionality is not included in the evaluated configuration.
Added support for new 4.3 inch display hardware	This functionality is not included in the evaluated configuration.

CCEVS VALIDATION - VID10456

Description	Analysis and Rationale
Added support for Lexmark Secure Content Monitor application	This functionality is not included in the evaluated configuration.
Improved energy savings and compliance with new regulations	This functionality is not security relevant.
Added Timed-Hibernate feature to all devices	This functionality is not security relevant.
Added support for scan-to-MRC compression for PDFs	This functionality is not included in the evaluated configuration.
Walk-up ability to capture device debug logs and to export logs.tar.gz to thumbdrive from front panel	This functionality is not included in the evaluated configuration.
Added support for TIFF JPEG compression	This functionality is not security relevant.
Added EWS interface for RGB Replacement	This functionality is not security relevant.
Added JFIF header support for JPEG	This functionality is not security relevant.
Addressed previous AirPrint exceptions	This functionality is not security relevant.
Added Object based toner density setting	This functionality is not security relevant.
Added RGB Replacement	This functionality is not security relevant.
Auto mono scan detect	This functionality is not security relevant.
FoIP is now supported when the eSF license is downloaded	This functionality is not included in the evaluated configuration.
Include the default Custom Message in supply email alerts	This functionality is not security relevant.
Added address support for Internal Accounts	While Internal Accounts are security relevant, the address fields within those records are not security relevant.
Added support for 2 new standard sizes, SRA3 and 12 x 18 inch paper	This functionality is not security relevant.
Fixes and Other Improvements	
Applied security patches to bring these devices up to the latest level including Openssl CVE-2014-0224 SSL/TLS MITM vulnerability (Note: these products did not have the TLS heartbleed read overrun (CVE-2014-0160) issue.)	This update addresses vulnerabilities discovered after the original evaluation: CVE-2014-3470, CVE-2014-0221, CVE-2014-0224 and CVE-2014-0195.
Fixed certificate issues	This update improves the input validation of several fields related to certificates; the update makes the TOE operate as designed with respect to these fields.
Improved disk wiping feature	This update eliminates a potential system crash during wiping, making the system operate as designed. Note that even if the crash did occur, the status of disk wiping was maintained across crashes and the operation would complete upon reboot.

CCEVS VALIDATION - VID10456

Description	Analysis and Rationale
Addressed authentication issues	This update addresses compatibility issues when using Active Directory for authentication; the issues involve special characters in passwords and AD running on Windows Server 2008R2 in non-compatibility mode. The effect of the issues was to prevent authorized users from being able to log in under limited circumstances; this update makes the TOE operate as designed.
Fixed analog Fax issues	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed FoIP Fax issues	This functionality is not included in the evaluated configuration.
Addressed shortcut issues, including the ability to select multiples.	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed several tray linking issues.	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Addressed issues related to exiting "sleep" mode.	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed issues where supplies were not reporting the correct Maximum Capacity.	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed issues with NPA/SNMP causing a hang, if commands were sent at certain times.	This functionality is not included in the evaluated configuration.
Added UCF keys to the variables located on the Supplies Notification web page.	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Improved translations, especially for the DBCS languages.	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Improved the VLML support.	This functionality is not included in the evaluated configuration.
Fixed timing issues that could result in a hang or 900 Software Service Error.	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Added ADF page counts to the event log for Scanner Jam events.	This update adds additional information to a non-security-relevant log record.
Improved the devices ability to cancel jobs.	This update improves the internal processing jobs to facilitate canceling. There is no change to security-relevant processing.
Fixed Postscript issues, some of which may lead to 900.43 Service errors.	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.

CCEVS VALIDATION - VID10456

Description	Analysis and Rationale
Fixed PDF errors, some may lead to Error messages or garbage output.	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed PCL/XL/GL issues, including the ability to suppress blank pages in XL.	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Made several improvements to the Job Accounting Log.	This update modifies job accounting, which is non-security-relevant.
Lowered the default sleep time-out to 20 minutes, if it was higher than that previously.	This update changes the default value of a non-security-relevant parameter.
Made some changes to the Setup Wizard.	This update modifies a non-security-relevant GUI.
Made several framework improvements.	This update improves internal processing. There is no change to security-relevant processing.
Improved memory usage, especially in low memory conditions.	This update modifies the memory usage strategy, which is non-security-relevant.
Changed default Hibernate setting from "Disabled" to "3 days" to match other Lexmark devices. (Note that "Hibernate on Connection" default setting is still "Do Not Hibernate.")	This update changes the default value of a non-security-relevant parameter.
Fixed issue when FRU RIP cards are installed and the code is at different levels	This functionality is not included in the evaluated configuration.
Fixed the reporting of some incorrect supply capacities on fusers and transfer belts	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed audio issues with the new 4.3 displays	This functionality is not included in the evaluated configuration.
Added support for additional OEMs	This functionality is not included in the evaluated configuration.
Fixed issue with page counts getting corrupted when a FRU RIP card is installed and booted into diags.	This functionality is not included in the evaluated configuration.
Several Translation and Text issues were addressed in several different languages	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Addressed several issues with VLML	This functionality is not included in the evaluated configuration.
Moved various security menu items under a single menu on the front panel as well as EWS	The moved items are limited to navigational selections that are used to invoke interactions to reset the MFP to factory defaults. They are not security-relevant because they are navigational only and are only used when operation as a configured TOE is no longer intended.
Improved support for several card readers	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.

CCEVS VALIDATION - VID10456

Description	Analysis and Rationale
Fixed issues with the 2.4 inch panel	This functionality is not included in the evaluated configuration.
Fixed causes of 900.30 errors	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed several "Home" screen issues	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Improved support for large media (12 x18 and SRA3)	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed causes of 900.80 errors	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed scanner related issues	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed crashes caused by corrupt data	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed causes of 900.43 errors	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed causes of 976 errors	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed Fax service errors and hangs	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed print quality and scan quality issues	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Made performance improvements	This update improves processing speeds of jobs. The associated functionality is not security-relevant.
Improved Windows 8 support	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Made improvements to tray linking	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Made Job Accounting Log improvements	This update modifies job accounting, which is non-security-relevant.
Improved Toner Usage information on some devices	This update modifies toner usage tracking, which is non-security-relevant.

CCEVS VALIDATION - VID10456

Description	Analysis and Rationale
Addressed issues with the diverter	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Job Accounting data improvements	This update modifies job accounting, which is non-security-relevant.
Fixed crashes when sending JBIG2 over spotty network	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed causes of 900.00 crashes	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed issue recognizing the Omnikey 5127ck card reader	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed issue trying to get DeviceInfo via web	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed XPS "Confidential Print" issue	This functionality is not included in the evaluated configuration.
Fixed cause of 900.56 errors	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed issue with false 956 errors	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Added more text on Toner Low more info text for C95x and X95x	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed causes of 976 Errors	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed UCF webpage UCF functionality on wireless cards	This functionality is not included in the evaluated configuration.
Fixed cause of 982.01 errors	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed issue with Toner Meter Reading and toner yield issue on C/X925	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed causes of 900.80 crashes	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed cause of 902 errors	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.

CCEVS VALIDATION - VID10456

Description	Analysis and Rationale
Fixed 900.10 error when mismatched size when copying from ADF-A4-Long Edge	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed fax issue with blue screens when it is time to send a delayed fax	This functionality is not included in the evaluated configuration.
Fixed Fax Hang on POR by resetting modem.	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed X925 Scanner jam issue that messes up job queue	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed X548 Rewards Program issue	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed black line observed on Mono copy from Letter to copy to 12 x18 and SRA3 paper sizes on X95x	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed issue that caused black Copies from Flatbed	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed X95x running EC2 has 5 second pause during mono COPY between page 1 and 2	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed issue with UI in Finnish language	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed issue in Scan to email - recipient list not clearing after email is sent	This functionality is not included in the evaluated configuration.
Fixed Manufacturing issue on X548	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Delay waste toner box full message after the near full state is reached (X74x)	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
New Scan to Network app v3.2.21	This functionality is not included in the evaluated configuration.
Fixed intermittent Fax crash	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed Windows 8 issue	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed issue with Hard disks not showing up or causing a hang at POR	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.

Description	Analysis and Rationale
Fixed cause of 976 Errors	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Fixed 900.80 crash when using the ADF with long edge fed A4 for faxing	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Improved supplies communication when exiting sleep mode	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.
Improved security of engine communication	This update improves the detection of third-party supplies (e.g. toner cartridges) being used in the MFP). This functionality is not security relevant.
Eliminated hang on the Main Menu after pressing # button coming out from overnight sleep	This update corrects functionality so that it works as intended. The associated functionality is not security-relevant.

IV. Conclusion

This maintenance activity covers the firmware changes fixing bugs identified with the original TOE. No existing security functionality was removed and no new security functionality was added. Minor Changes with Some Security Relevance: The changes relate to the TSC in some way though the affect of the change is only to ensure the TOE functions as designed, with no known vulnerabilities, and does not add or detract from the stated requirements in the ST. This version of the TOE does not introduce new security relevant product functionality. Therefore, the conclusion is that the changes are minor and acceptable under the assurance maintenance program.