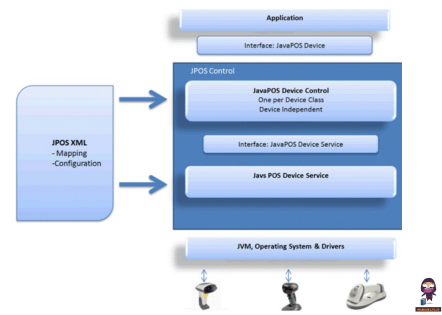




ZEBRA JPOS Driver for Linux



ZEBRA JPOS Driver for Linux Instructions

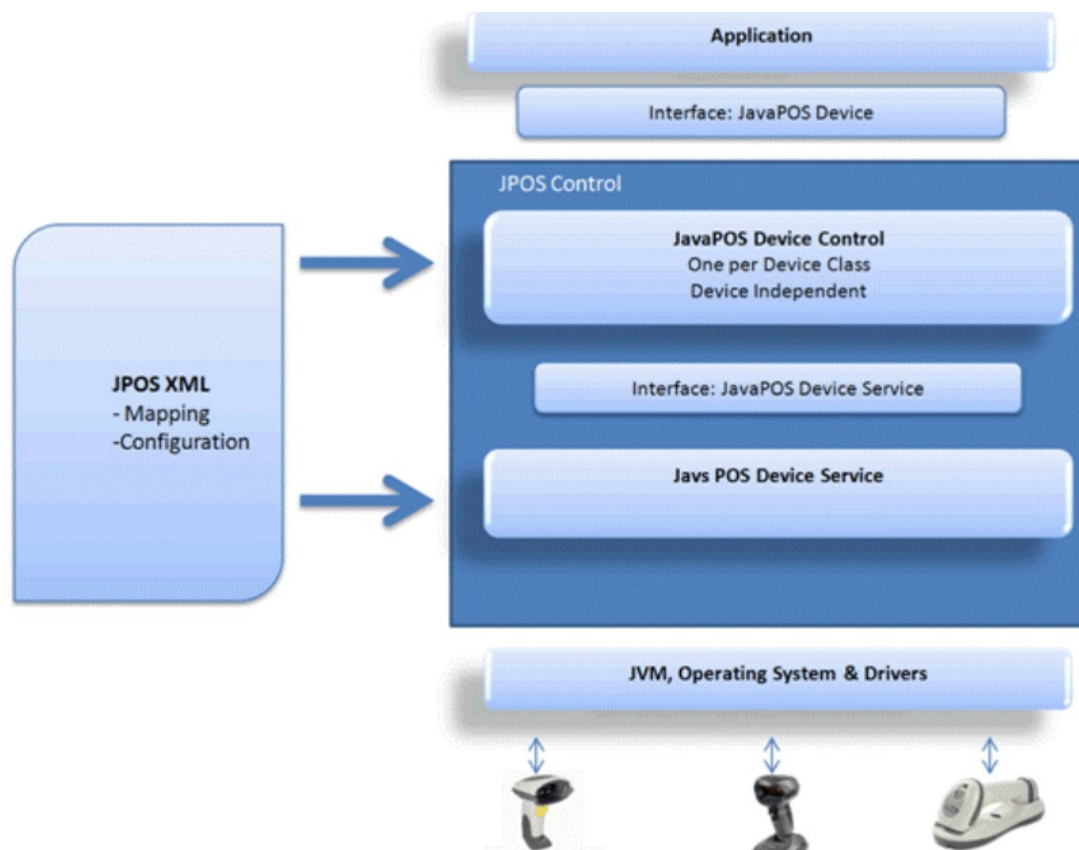
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ZEBRA JPOS Driver for Linux



Overview

These release notes describe the JPOS driver for Linux, including its functionality, supported scanners, and supported distributions. Functionality,

1. JPOS driver.
2. Development libraries and header files for Java application developers.
3. Test and Sample utilities
 - Scanner/Scale JPOS Driver Test Utility (Java).

Specifications

- **Product Name:** JPOS Driver for Linux
- **Version:** v4.4 September 2024
- **Functionality:** JPOS driver, Development libraries for Java developers, Test, and Sample utilities
- **Device Compatibility:** Zebra scanners
- **Supported COM Protocols:**
 1. IBM Table-Top USB
 2. IBM Hand-Held USB
 3. Symbol Native API (SNAPI) with Imaging Interface
 4. Symbol Native API (SNAPI) without Imaging Interface

Product Usage Instructions

JPOS Driver Configuration

The JPOS driver allows XML configuration of scanner attributes and access to Zebra-specific functionality through Direct I/O calls.

Sample Applications

The JPOS driver includes sample applications for testing and development purposes. Make sure to refer to the provided documentation for details on using these sample applications.

Logging Support

The JPOS driver provides logging support for troubleshooting purposes. Check the logs in case of failures to diagnose issues.

Device Compatibility

Ensure that your Zebra scanner is compatible with the JPOS driver for Linux. Refer to the provided link for the list of compatible devices.

Communication Protocols

The JPOS driver supports various communication protocols such as IBM Table-Top USB, IBM Hand-Held USB, and Symbol Native API (SNAPI).

JPOS Driver

1. XML configuration of scanner attributes.
2. Access to Zebra-specific functionality through Direct I/O calls
3. Sample applications
 - JPOS sample app
4. Logging support
5. JPOS exceptions for failures (Troubleshooting)

Host Device Details

See the “Installation Options (Supported Distributions)” table – shown below.

- For the latest SDK updates, please visit Zebra Scanner SDK
- For support, please visit <http://www.zebra.com/support>.

Device Compatibility

- For the compatible devices list, please visit the following page.
- <https://www.zebra.com/us/en/support-downloads/software/developer-tools/scanner-sdk-for-linux.html>

Supported COM Protocols

JPOS driver for Linux support following communication protocols:

1. IBM Table-Top USB
2. IBM Hand-Held USB
3. Symbol Native API (SNAPI) with Imaging Interface
4. Symbol Native API (SNAPI) without Imaging Interface

Version History

Version 4.4.1-55 – 09/2024

1. Bug fix – Fixed issue in not throwing an exception pop up window upon performing zero scale in overweight scenario.
2. Bug Fix – Corrected PIDXScan_ScanDataType getting set to 0 incorrectly after performing interactive checkhealth.
3. Bug Fix – Minor sample app fix – Enable Live Weight checkbox now gets set to disabled state after enabling “Auto Device Enable” or after setting property for PIDX_DeviceEnabled to true.
4. Enhancements in log file.
 - Log entries are added to indicate the status of the “Zero Scale” command.
 - Removed incorrect exception log entry upon performing zero scale process while PIDXScal_ZeroValid is false.
5. Bug Fix – Fixed issue in disabling scanner after a barcode is read through the interactive health check option when AutoDisable is enabled.
6. Bug Fix – Minor sample app fix – Implemented validations for values set for properties “DeviceEnabled”, “EnableLiveWeight” and “PowerNotify” to indicate invalid values to the user through the sample application’s log view.
7. Bug Fix – Corrected the text representations for Health Check options (Internal, External, and Interactive) in the log view.

Version 4.4.1-53 – 07/2024

8. Bug fix – Minor sample app fix – The state of the Power Notify checkbox in the JPOS Sample application now shows the correct state after releasing the JPOS Scale profile.
9. Bug Fix – Minor sample app fix – Fixed PIDXScan_ScanData field to display label IDs (if configured) in the JPOS Sample application.
10. Bug Fix – Fixed JPOS zero scale feature limits up to 0.05 lbs only when it should be 0.60 lbs.

Version 4.4.1-52 – 06/2024

1. Updated “logback” library to version 1.2.13.

Version 4.4.1-50 – 04/2024

1. Bug Fix – Minor sample app fix – State of Data Event Enable and Device Enable checkboxes in the JPOS Sample application now show the correct state when the JPOS Scale profile is not opened.
2. Bug Fix – Fixed intermittent exception caused in the JPOS Scale live weight thread when attempting to restart or configure the scale while live weight is in progress.
3. Bug Fix – Minor sample app fix – Synchronized state of “Device Enable” checkbox when “Auto Device Enable” or “Enable Live Weight” selections are used.
4. Added a new attribute “ClearQueueOnRelease” to the JPOS.xml file, to configure clearing the data queue when the device is released.
5. Bug Fix – An exception is fired upon performing a Zero Scale with weights greater than the firmware-implemented scale zeroing weight limit.

6. Bug Fix – Prevented incorrectly throwing “Timed out with zero stable weight” exception after setting PIDXScal_ZeroValid to true in JPOS Scale live weight DIO.

Version 4.4.1-49 – 01/2024

1. Enhanced the JPOS driver to send device enable/disable commands without checking the current status.

Version 4.4.1-47 – 01/2024

1. Enhanced JPOS Driver
 - a. Bug Fix – Minor sample app fix – State of Data Event Enable checkbox in JPOS Sample application after a barcode is scanned now works as expected. Bug Fix – Minor sample app fix – State of Device Enable checkbox in JPOS Sample application after a barcode is scanned with AutoDisable enabled now works as expected

Version 4.4.1-45 – 10/2023

1. Bug Fix – Check Health (Internal and External) now returns a “No hardware” response, when no scanner(s) is connected to the USB bus
2. Bug Fix – Sample App no longer shows incorrect weight when ReadWeight is called with Freeze Events enabled.
3. Bug Fix – The driver now returns “Not Ready” scale status, when the scale is unplugged while having live weight enabled.

Version 4.4.1-44 – 10/2023

1. Added support for multiple JPOS Scanner instances when communicating with one application. This enables the JPOS driver to communicate to and track multiple scanners simultaneously and independently, like the MP7000 and DS8178/cradle.
2. Added support to filter scanner discovery by host mode, model, and serial number. The scanners are filtered by comm protocol. Additional filters can include Model Name and/or Serial number.
3. JPOS Sample application – Added support to create multiple JPOS Scanner instances.

Version 4.4.1-36 – 04/2023

1. Enhanced JPOS driver
 - Bug fix in Sample App – Fixed error message incorrectly displayed in JPOS Sample application when Zero Scale command is called and weighing item below 30 grams.
 - Update the JPOS driver to fire Scale status update events whenever a status update and a weight change is detected.
 - Bug fix in Sample App – Made the display format for scale weight consistent in the sample application for Read Weight, Live Weight, and Direct IO NCR Live Weight calls.
 - Bug fix in JPOS Sample App – Fixed application lockup if enabling both live weight and auto-disabled simultaneously.

Version 4.4.1-33 – 10/2022

1. Enhanced JPOS driver

- Enhanced driver to support NCR-requested “HealthCheck” label IDs.
- Bug fix – “Get Error Response” API now returns the correct error on Read Weight in Scale.
- Minor UI optimizations in the JPOS Sample Application for Windows.

Version 4.4.1-32 – 04/2023

1. Enhanced JPOS driver

- Bug fix in Sample App – Fixed error message incorrectly displayed in JPOS Sample application when Zero Scale command is called and weighing item below 30 grams.
- Update the JPOS driver to fire Scale status update events whenever a status updates and a weight change is detected.
- Bug fix in Sample App – Made the display format for scale weight consistent in the sample application for Read Weight, Live Weight, and Direct IO NCR Live Weight calls.
- Bug fix in JPOS Sample App – Fixed application lockup if enabling both live weight and auto-disabled simultaneously.

Version 4.4.1-30 – 10/2022

1. Enhanced JPOS driver

- Enhanced driver to support NCR-requested “HealthCheck” label IDs.
- Bug fix – “Get Error Response” API now returns the correct error on Read Weight in Scale.
- Minor UI optimizations in the JPOS Sample Application for Windows.

Version 4.4.1-29 – 05/2022

1. Enhanced JPOS driver

- Bug fix, ReadWeight events are now reported correctly when DataEventEnabled is false and LiveWeight is true.
- Enhanced driver to support all NCR-requested “ScanData” label IDs.

Version 4.4.1-28 – 04/2022

1. Enhanced Toshiba Global Commerce Solutions (TGCS) POS system support

- JPOS driver enhanced to support System Management Information calls from TGCS POS system
- Core scanner enhanced to support TGCS’ CIM Service Provider = “UPOS_BarcodeScanner” queries

Version 4.4.1-27 – 01/2022

1. Enhanced JPOS driver – Fixed rarely seen JPOS statistics retrieval issue on scanners.

Version 4.4.1-24 – 10/2021

1. Enhanced JPOS driver

- Added support to execute DirectIO commands without claiming the device.
- JPOS sample application enhancement to display the “Live Weight” and the logs on live weight status update events.
- Enhanced logging in JPOS driver including access to barcode data, power state, scale weight, and what API calls have been made.

Version 4.4.1-19 – 04/2021

1. Enhanced JPOS driver v1.14 to include support for PNP events for both Scanner and Scale.
2. Bug fix – The JPOS driver v1.14 for code 49 now returns the correct Symbology types when the Zebra scanner is in IBM Hand-Held or IBM Table-Top host modes.

Version 4.4.1-15 – 10/2020

1. Common JPOS driver bundled in both Linux and Windows SDKs. With this common code driver, the same features are now supported across both Linux and Windows.
2. Removed Apache Xerces XML parser dependency from the Zebra JPOS Service Object (SO).

Version 4.4.1-8 – 04/2020

1. Bug fix – Synchronizatioblock introducedde when consuming the events from CoreScanner to JPOS driver. Otherwise, the single-core POS system is missing different events from different logical devices (JPOS)

Version 4.4.1-2 – 10/2019

1. Added “DotCode” and “GridMatrix” symbology support to JPOS and SDK Sample Applications. Note the Linux SDK already supported these symbologies.
2. Added Java 12 UI enhancements to JPOS Sample Application. Note no change is required in the JPOS driver.

Version 4.4.0-18 – 08/2019

1. Added Scale Live Weight event support for Multi-Plane scanners.
2. Vendor-specific capability, ‘CapStatusUpdate’ enabled in JPOS Scale driver.
3. Implemented the ‘StatusNotify’ property in the JPOS driver.

Version 4.4.0-14 – 06/2019

1. “EAN13 Supplementary of 5” symbology support added into JPOS Sample Application.

Version 4.4.0 – 03/2019

1. Added JPOS 1.14 standard compatibility for the JPOS driver.
2. Introduced a JPOS-based asset query capability (model #, serial #, date of many fractures, firmware version).

Version 4.3.1 – 08/2018

1. Added support for JPOS Scale Asynchronized Read Weight -1 (forever) timeout support.

Version 4.2.4 – 04/2018

1. JPOS Scale Read Weight Asynchronized mode support.
2. JPOS Statistics reporting support for Scale.

Version 1.3.0 – 08/2015

1. Concurrent application support for Scanner and Scale of MP6200 in JPOS.

Components

Component or Module	File	Installation Path
JPOS driver and SDK libraries	xml-apis.jar	/usr/lib/zebra-scannerjava poss/pos/
	xercesImpl.jar	
	JposServiceScanner.jar	
	JposServiceScale.jar	
	JposServiceOnScanner.jar	
	JposServiceOnScale.jar	
	JposServiceJniScanner.jar	
	JposServiceJniScale.jar	
	JposLogger.jar	
	javaPOS114.jar	
	JLogger.jar	
	logback-core-1.2.3.jar	
	logback-classic-1.2.3.jar	
	lsf4j-api-1.7.25.jar	
CoreScanner libraries for JPOS JNI	libs-jniscanner.so.4.0.0	/usr/lib/zebra-scanner/java pos/jni/
	libcs-jniscale.so.4.0.0	
	libs-jniscanner.so -> links-jniscanner.so.4.0.0	
	libcs-jniscale.so -> libcs-jniscale.so.4.0.0	
JPOS sample application	JposTest.jar	/usr/share/zebra-scanner/sa mples/jpos-sample-app/
	pos-sample-app.sh	
	build.xml	
JPOS based Remote	jposRemoteManagement.jar	/usr/lib/zebra-

Installation Options (Supported Distributions)

- Supported distributions and their installation options.

Supported Architecture for CoreScanner and JPOS Drivers for Linux

Supported Distribution

	RPM_x86_64bit	RPM_x86_32bit	Debian_x86_64bit	Debian_x86_32bit	Debian_ARM_32bit	Debian_ARM_64bit
CentOS 8.1	X	NA	NA	NA	NA	NA
CentOS 7.9	X	NA	NA	NA	NA	NA
CentOS 7.3	X	NA	NA	NA	NA	NA
CentOS 7	X	X	NA	NA	NA	NA
CentOS 6.3	X	X	NA	NA	NA	NA
SLES 15 SP3	X	NA	NA	NA	NA	NA
SLES 12 SP5	X	NA	NA	NA	NA	NA
SLES 11 SP3	X	X	NA	NA	NA	NA
SLES 11 SP2	X	X	NA	NA	NA	NA
Open SUSE 15.2	X	NA	NA	NA	NA	NA
Open SUSE 13.1	X	NA	NA	NA	NA	NA
Red Hat 7.4	X	NA	NA	NA	NA	NA
Ubuntu 22.04	NA	NA	X	NA	NA	NA
Ubuntu 20.04	NA	NA	X	NA	NA	NA
Ubuntu 18.04	NA	NA	X	NA	NA	X
Ubuntu 16.04	NA	NA	X	X	NA	NA
Ubuntu 14.04	NA	NA	X	X	NA	NA
Ubuntu 12.04	NA	NA	X	X	NA	NA
Debian 10.10	NA	NA	X	X	NA	NA
Debian 9.5	NA	NA	X	X	NA	NA
Debian 8	NA	NA	X	X	NA	NA
Debian 7	NA	NA	X	X	NA	NA
Raspberry Pi OS	NA	NA	NA	NA	X	X
Other *	NA	NA	NA	NA	NA	NA
	x86_64	i386	x86_64	i386	armhf arm7l	arm64

Dependencies and Package Installation

Dependencies for CoreScanner Driver for Linux and Scanner SDK for Linux are as follows

Library	Version
Zebra CoreScanner driver for Linux	4.4.1-0 or above
Java	6 (JDK 1.6) or above

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For more information about JavaPOS, JavaPOS architecture, terminology, and programmer's guides, refer to:

- JavaPOS home page at <http://www.javapos.com/>
- UPOS home page at <http://www.nrf-arts.org/>

1. Bug fix – Minor sample app fix – The state of the Power Notify checkbox in the JPOS Sample application now shows the correct state after releasing the JPOS Scale profile.
2. Bug Fix – Fixed PIDXScan_ScanData field to display label IDs (if configured) in the JPOS Sample application.
3. Bug Fix – Fixed JPOS zero scale feature limits up to 0.05 lbs only when it should be 0.60 lbs.

Version 3.06.0037 – 04/2024

1. Bug fix – Minor sample app fix – State of Data Event Enable and Device Enable checkboxes in the JPOS Sample application now show the correct state when the POS Scale profile is not opened.
2. Bug fix – Fixed intermittent exception caused in the JPOS Scale live weight thread when attempting to restart or configure the scale while live weight is in progress.
3. Bug fix – Minor sample app fix – Synchronized state of “Device Enable” checkbox when “Auto Device Enable” or “Enable Live Weight” selections are used.
4. Added a new attribute “ClearQueueOnRelease” to the JPOS.xml file, to configure clearing the data queue when the device is released.
5. Bug fix – An exception is fired upon performing a Zero Scale with weights greater than the firmware-implemented scale zeroing weight limit.
6. Bug fix – Prevented incorrectly throwing “Timed out with zero stable weight” exception after setting PIDXScal_ZeroValid to true in JPOS Scale live weight DIO.

Version 3.06.0034 – 01/2024

1. Bug fix – Minor sample app fix – State of Data Event Enable checkbox in JPOS Sample application after a barcode is scanned now works as expected.
2. Bug fix – Minor sample app fix – State of Device Enable checkbox in JPOS Sample application after a barcode is scanned with AutoDisable enabled now works as expected.

Version 3.06.0033 – 10/2023

1. Added support for multiple JPOS Scanner instances when communicating with one application. This enables the JPOS driver to communicate to and track multiple scanners simultaneously and independently, like the MP7000 and DS8178/cradle.
2. Added ability to “Filter Scanner Discovery” on 1.) Host Communication Mode, 2.) Model (a.k.a DS9908...) and 3.) Serial Number. JPOS now matches OPOS functionality.
3. Bug fix – Check Health (Internal and External) now returns a “No hardware” response, when no scanner(s) is connected to the USB bus.
4. Bug fix – Sample App no longer shows incorrect weight when ReadWeight is called with Freeze Events enabled.
5. Bug fix – The driver now returns “Not Ready” scale status, when the scale is unplugged while having live weight enabled.

Version 3.06.0029 – 07/2023

1. Bug fix – Fixed issue that incorrectly appended a Label ID for “NCR label” with barcode type ISSN.
2. Bug fix – Fixed issue relevant to error arguments (locus and response) in JPOS read weight events.
3. Sample App Security fix – Updated library “xercesImpl.jar” used in JPOS Sample application from v2.11.0 to v2.12.2 to resolve security vulnerabilities.
4. Sample App Bug fix – DTdevice enabled button’s state now gets updated upon enabling the auto device enable (button) in the JPOS scale.
5. Sample App Bug fix – The Barcode name is now correctly displayed for Han Xin Code.

Version 3.06.0028 – 04/2023

1. Bug fix in Sample App – Fixed error message incorrectly displayed in JPOS Sample application when Zero Scale command is called and weighing item below 30 grams.
2. Update the JPOS driver to fire Scale status update events whenever a status update and a weight change are detected.
3. Bug fix in Sample App – Made the display format for scale weight consistent in the sample application for Read Weight, Live Weigh,t, and Direct IO NCR Live Weight calls.
4. Bug fix in JPOS Sample App – Fixed application lockup if enabling both live weight anauto-disablele simultaneously.

Version 3.06.0023 – 10/2022

1. Enhanced driver to support NCR-requested “HealthCheck” label IDs.
2. Bug fix – “Get Error Response” API now returns the correct error on Read Weight in Scale.
3. Bug fix – Deliver an error event with Error response, ER_CONTINUEINPUT, when all items of the queue are delivered and DataEvent is enabled.
4. Minor UI optimizations in the JPOS Sample Application for Windows.

Version 3.06.0022 – 08/2022

1. Enhanced driver to support Freeze Events in JPOS Scale.
2. Bug fix – ReadWeight events are now reported correctly when DataEventEnabled is false and LiveWeight is true.

Version 3.06.0021 – 06/2022

1. Bug fix – ReadWeight events are now reported correctly when DataEventEnabled is false and LiveWeight is true.
2. Enhanced driver to support all NCR-requested “ScanData” label IDs.

Version 3.06.0018 – 04/2022

1. Enhanced Toshiba Global Commerce Solutions (TGCS) POS system support
 - JPOS driver enhanced to support System Management Information calls from TGCS POS systems.
 - Corescanner enhanced to support TGCS’ CIM Service Provider = “UPOS_BarcodeScanner” queries.

Version 3.06.0015 – 01/2022

1. Updated Windows JPOS sample application to support smaller/lower-resolutions monitors.
2. Fixed rarely seen JPOS statistics retrieval issue.

Version 3.06.0013 – 10/2021

1. Added support to execute DirectIO commands without claiming the device.
2. JPOS sample application enhancement to display the “Live Weight” and the logs on live weight status update events.
3. Enhanced logging in JPOS driver including access to barcode data, power state, scale weight, and what API calls have been made.

Version 3.06.0010 – 08/2021

1. Enhanced logging in JPOS driver including access to barcode data, scale weight, and what API calls have been made.

Version 3.06.0006 – 04/2021

1. Add support for “extended error codes” for NCRDIO_SCALE_LIVE_WEIGHT DirectIO command in JPOS.
2. Add support for JPOS Scale status responses.

Version 3.06.0003 – 01/2021

1. Added support for Scanner DirectIO RESET command.
2. Added support for custom MP7000 scale result codes for ErrorOverWeight, ErrorUnderZero, and ErrorSameWeight.

Version 3.06.0002 – 10/2020

1. JPOS driver update. Removed Apache Xerces XML parser dependency from the Zebra JPOS Service Object (SO).

Version

1. JPOS driver update. Removed Apache Xerces XML parser dependency from the Zebra JPOS Service Object (SO).

Version 3.05.0003 – 04/2020

1. For NCR-based retail POS customers- Added support for NCR Direct I/O command in JPOS drivers (Scanner and Scale).
2. JPOS driver update. JPOS driver now uses a common code base with the more mature Linux JPOS driver.
3. JPOS driver operation is now also validated on OpenJDK 11, in addition to existing validation on the Oracle

JDK.

Version 3.05.0001 – 01/2020

1. Enhanced the JPOS driver to meet fully JPOS 1.14 specification compliance.
2. Enhanced JPOS demo app to display barcode data in HEX format.
3. Enhanced JPOS driver to support scanner configuration through a jpos.xml file.

Version 3.02.0000 – 08/2017

1. Updated JPOS sample application to demonstrate Direct I/O functionality.

Version 2.04.0000 – 08/2014

1. JPOS supports both 64-bit and 32-bit JVMs o64-bitit platforms.

FAQs


Q: How can I configure the JPOS driver for my specific scanner?

A: You can configure the JPOS driver by editing the XML configuration file to set scanner attributes according to your requirements.

Q: What should I do if I encounter failures while using the JPOS driver?

A: Check the logs for JPOS exceptions to troubleshoot any issues. Ensure that your scanner is compatible with the driver and that the communication protocols are correctly set up.

Documents / Resources

	ZEBRA JPOS Driver for Linux [pdf] Instructions JPOS Driver for Linux, Driver for Linux, Linux
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References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

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