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WORKSHOP

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AGREEMENT

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English version

**J/eXtensions for Financial Sevices (J/XFS) for the Java Platform
- Part 10: Check Reader/Scanner Device Class Interface -
Programmer's Reference**

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Foreword

This CWA contains the specifications that define the J/eXtensions for Financial Services (J/XFS) for the Java™ Platform, as developed by the J/XFS Forum and endorsed by the CEN/ISSS J/XFS Workshop. J/XFS provides an API for Java applications which need to access financial devices. It is hardware independent and, by using 100% pure Java, also operating system independent.

The CEN/ISSS J/XFS Workshop gathers suppliers (among others the J/XFS Forum members), service providers as well as banks and other financial service companies. A list of companies participating in this Workshop and in support of this CWA is available from the CEN/ISSS Secretariat. The specification was agreed upon by the J/XFS Workshop Meeting of 2002-09-25/26 in Barcelona and a subsequent electronic review by the Workshop participants, and the final version was sent to CEN for publication on 2002-12-06.

The specification is continuously reviewed and commented in the CEN/ISSS J/XFS Workshop. The information published in this CWA is furnished for informational purposes only. CEN/ISSS makes no warranty expressed or implied, with respect to this document. Updates of the specification will be available from the CEN/ISSS J/XFS Workshop public web pages pending their integration in a new version of the CWA (see: <http://www.cenorm.be/cenorm/businessdomains/businessdomains/informationssystemstandardizationsystem/applying+technologies/j-xfst+workshop/index.asp>).

The J/XFS specifications are now further developed in the CEN/ISSS J/XFS Workshop. CEN/ISSS Workshops are open to all interested parties offering to contribute. Parties interested in participating should contact the CEN/ISSS Secretariat (iss@cenorm.be). To submit questions and comments for the J/XFS specifications, please contact the J/XFS Workshop Secretariat hosted in CEN/ISSS (jxfs-helpdesk@cenorm.be). Questions and comments can also be submitted to the members of the J/XFS Forum, who are all CEN/ISSS J/XFS Workshop members, through the J/XFS Forum web-site <http://www.jxfs.com>

This CWA is composed of the following parts:

- Part 1: J/eXtensions for Financial Services (J/XFS) for the Java Platform - Base Architecture - Programmer's Reference
- Part 2: J/eXtensions for Financial Services (J/XFS) for the Java Platform - Pin Keypad Device Class Interface - Programmer's Reference
- Part 3: J/eXtensions for Financial Services (J/XFS) for the Java Platform - Magnetic Stripe & Chip Card Device Class Interface - Programmer's Reference
- Part 4: J/eXtensions for Financial Services (J/XFS) for the Java Platform - Text Input/Output Device Class Interface - Programmer's Reference
- Part 5: J/eXtensions for Financial Services (J/XFS) for the Java Platform - Cash Dispenser, Recycler and ATM Interface - Programmer's Reference
- Part 6: J/eXtensions for Financial Services (J/XFS) for the Java Platform - Printer Device Class Interface - Programmer's Reference
- Part 7: J/eXtensions for Financial Services (J/XFS) for the Java Platform - Alarm Device - Programmer's Reference
- Part 8: J/eXtensions for Financial Services (J/XFS) for the Java Platform - Sensors and Indicators Unit Device Class Interface - Programmer's Reference
- Part 9: J/eXtensions for Financial Services (J/XFS) for the Java Platform - Depository Device Class Interface - Programmer's Reference
- Part 10: J/eXtensions for Financial Services (J/XFS) for the Java Platform - Check Reader/Scanner Device Class Interface - Programmer's Reference
- Part 11: J/eXtensions for Financial Services (J/XFS) for the Java Platform - Camera Specification - Programmer's Reference
- Part 12: J/eXtensions for Financial Services (J/XFS) for the Java Platform - Vendor Dependant Mode Specification - Programmer's Reference

CWA 14923-10:2004 replaces CWA 13937-10:2003 and should be read in conjunction with CWA 13937-10:2000, which contains the previous release of the J/XFS specification

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History

The main differences to the previous CWA 13937:2000 are:

- JXFS_E_CLAIMED exception removed from section 4.2
- Added a class hierarchy diagram
- Added paragraph describing handling of null parameters
- Changed from lowercase “j” to uppercase “J” in all interface names starting with “Jxfs...”

1 Scope

This document describes the Check Reader/Scanner class based on the basic architecture of J/XFS which is similar to the JavaPOS architecture. It is event driven and asynchronous.

Three basic levels are defined in JavaPOS. For J/XFS this model is extended by a communication layer, which provides device communication that allows distribution of applications and devices within a network. So we have the following layers in J/XFS:

- Application
- Device Control and Device Manager
- Device Communication
- Device Service

Application developers program against control objects and the Device Manager which reside in the Device Control layer. This is the usual interface between applications and J/XFS devices. Device Control objects access the Device Manager to find an associated Device Service. Device Service objects provide the functionality to access the real device (i.e. like a device driver).

During application startup the Device Manager is responsible for locating the desired Device Service object and attaching this to the requesting Device Control object. Location and/or routing information for the Device Manager reside in a central repository.

To support Check Reader/Scanner devices the basic Device Control structure is extended with various properties and methods specific to this device which are described on the following pages.

2 Overview

2.1 Description

The J/XFS Check Reader/Scanner Device Support allows for the operation of devices with a range of features, from small hand-held read-only devices where checks are manually swiped through one at a time, to much larger devices which automatically feed checks by the batch past a reader, an encoder, an endorser, an optional image scanner, to be sorted into one of several pockets.

In the U.S. checks are always encoded in magnetic ink for reading by Magnetic Ink Recognition (MICR), and a single font is always used. In other areas some countries use MICR and some use Optical Character Recognition (OCR) character sets, with different fonts.

As well as the rest of J/XFS device controls, J/XFS Check Reader/Scanner devices use the event driven model and the same behavioral model. Therefore, the application will instantiate a J/XFS Check Reader/Scanner Device Control Object and then use the available methods to do I/O. When an I/O method is called, the J/XFS Check Reader/Scanner Device Service will attempt to process the requested I/O. If the request is invalid or an exception is encountered, the application will be notified by a J/XFS exception. Completion of the request will be reported by an event. Thus the application must register itself with the J/XFS Check Reader/Scanner Device Control Object for the various types of events it wishes to handle.