

CEN

CWA 15748-46

WORKSHOP

September 2011

AGREEMENT

ICS 35.240.40

English version

**Extensions for Financial Services (XFS) interface specification -
Release 3.10 - Part 46: XFS MIB Device Specific Definitions -
Barcode Reader Device Class MIB 3.10**

This CEN Workshop Agreement has been drafted and approved by a Workshop of representatives of interested parties, the constitution of which is indicated in the foreword of this Workshop Agreement.

The formal process followed by the Workshop in the development of this Workshop Agreement has been endorsed by the National Members of CEN but neither the National Members of CEN nor the CEN Management Centre can be held accountable for the technical content of this CEN Workshop Agreement or possible conflicts with standards or legislation.

This CEN Workshop Agreement can in no way be held as being an official standard developed by CEN and its Members.

This CEN Workshop Agreement is publicly available as a reference document from the CEN Members National Standard Bodies.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

© 2011 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No.:CWA 15748-46:2011 E

Table of Contents

FOREWORD	3
1. INTRODUCTION	6
2. XFS BCR MIB VARIABLES	9
2.1 XFS BCR STATUS TABLE.....	9
2.1.1 xfsBCRStatusTable: States	9
2.2 XFS BCR SUB DEVICE TABLE	11
2.3 XFS BCR ERROR TABLE.....	11
2.4 XFS BCR RESET TABLE.....	11
2.5 XFS BCR RESET DEVICE TABLE.....	12
2.6 XFS BCR CAPABILITIES TABLE.....	13
2.6.1 xfsBCRCapabilitiesTable: Capabilities	13
3. BCR TRAPS	17
3.1 BCR DETAILED DEVICE STATUS CHANGE TRAP	17
3.1.1 BCR Detailed Device Status Change Trap Format	17
3.1.2 BCR Detailed Device Status Change Trap: an example	19
3.2 BCR SUB-DEVICE STATUS CHANGE TRAP	20
3.3 BCR RESET DEVICE COMPLETE TRAP.....	20
3.3.1 BCR Reset Device Complete Trap Format	20
3.3.2 BCR Reset Device Complete: an example.....	22
4. APPENDIX A - BCR MIB SUB-TREE	24
4.1 BCR MIB IN SMIV2 AND SMIV1 FORMAT	24
5. APPENDIX B - C-HEADER FILES	35
5.1 XFSMIBBCR.H.....	35

Foreword

This CWA is revision 3.10 of the XFS interface specification.

This CEN Workshop Agreement has been drafted and approved by a Workshop of representatives of interested parties on 2007-11-29, the constitution of which was supported by CEN following the public call for participation made on 1998-06-24. The specification is continuously reviewed and commented in the CEN/ISSS Workshop on XFS. It is therefore expected that an update of the specification will be published in due time as a CWA, superseding this revision 3.10.

A list of the individuals and organizations which supported the technical consensus represented by the CEN Workshop Agreement is available to purchasers from the CEN-CENELEC Management Centre. These organizations were drawn from the banking sector. The CEN/ISSS XFS Workshop gathered suppliers as well as banks and other financial service companies.

The CWA is published as a multi-part document, consisting of:

Part 1: Application Programming Interface (API) - Service Provider - Interface (SPI) - Programmer's Reference

Part 2: Service Classes Definition - Programmer's Reference

Part 3: Printer and Scanning Device Class Interface - Programmer's Reference

Part 4: Identification Card Device Class Interface - Programmer's Reference

Part 5: Cash Dispenser Device Class Interface - Programmer's Reference

Part 6: PIN Keypad Device Class Interface - Programmer's Reference

Part 7: Check Reader/Scanner Device Class Interface - Programmer's Reference

Part 8: Depository Device Class Interface - Programmer's Reference

Part 9: Text Terminal Unit Device Class Interface - Programmer's Reference

Part 10: Sensors and Indicators Unit Device Class Interface - Programmer's Reference

Part 11: Vendor Dependent Mode Device Class Interface - Programmer's Reference

Part 12: Camera Device Class Interface - Programmer's Reference

Part 13: Alarm Device Class Interface - Programmer's Reference

Part 14: Card Embossing Unit Class Interface - Programmer's Reference

Part 15: Cash-In Module Device Class Interface - Programmer's Reference

Part 16: Card Dispenser Device Class Interface - Programmer's Reference

Part 17: Barcode Reader Device Class Interface - Programmer's Reference

Part 18: Item Processing Module Device Class Interface - Programmer's Reference

Parts 19 - 28: Reserved for future use.

Parts 29 through 47 constitute an optional addendum to this CWA. They define the integration between the SNMP standard and the set of status and statistical information exported by the Service Providers.

Part 29: XFS MIB Architecture and SNMP Extensions MIB Version 3.10

Part 30: XFS MIB Device Specific Definitions - Printer Device Class MIB 3.10

Part 31: XFS MIB Device Specific Definitions - Identification Card Device Class MIB 3.10

Part 32: XFS MIB Device Specific Definitions - Cash Dispenser Device Class MIB 3.10

Part 33: XFS MIB Device Specific Definitions - PIN Keypad Device Class MIB 3.10

Part 34: XFS MIB Device Specific Definitions - Check Reader/Scanner Device Class MIB 3.10

Part 35: XFS MIB Device Specific Definitions - Depository Device Class MIB 3.10

Part 36: XFS MIB Device Specific Definitions - Text Terminal Unit Device Class MIB 3.10

Part 37: XFS MIB Device Specific Definitions - Sensors and Indicators Unit Device Class MIB 3.10

CWA 15748-46:2011 (E)

Part 38: XFS MIB Device Specific Definitions - Camera Device Class MIB 3.10

Part 39: XFS MIB Device Specific Definitions - Alarm Device Class MIB 3.10

Part 40: XFS MIB Device Specific Definitions - Card Embossing Unit Device Class MIB 3.10

Part 41: XFS MIB Device Specific Definitions - Cash-In Module Device Class MIB 3.10

Part 42: Reserved for future use.

Part 43: XFS MIB Device Specific Definitions - Vendor Dependent Mode Class MIB 3.10

Part 44: XFS MIB Application Management MIB 3.10

Part 45: XFS MIB Device Specific Definitions - Card Dispenser Device Class MIB 3.10

Part 46: XFS MIB Device Specific Definitions - Barcode Reader Device Class MIB 3.10

Part 47: XFS MIB Device Specific Definitions - Item Processing Module Device Class MIB 3.10

Parts 48 - 60 are reserved for future use.

Part 61: Application Programming Interface (API) - Service Provider Interface (SPI) - Migration from Version 3.0 (see CWA 14050) to Version 3.10 (this CWA) - Programmer's Reference

Part 62: Printer and Scanning Device Class Interface - Migration from Version 3.0 (CWA 14050) to Version 3.10 (this CWA) - Programmer's Reference

Part 63: Identification Card Device Class Interface - Migration from Version 3.02 (see CWA 14050) to Version 3.10 (this CWA) - Programmer's Reference

Part 64: Cash Dispenser Device Class Interface - Migration from Version 3.0 (see CWA 14050) to Version 3.10 (this CWA) - Programmer's Reference

Part 65: PIN Keypad Device Class Interface - Migration from Version 3.03 (see CWA 14050) to Version 3.10 (this CWA) - Programmer's Reference

Part 66: Check Reader/Scanner Device Class Interface - Migration from Version 3.0 (see CWA 14050) to Version 3.10 (this CWA) - Programmer's Reference

Part 67: Depository Device Class Interface - Migration from Version 3.0 (see CWA 14050) to Version 3.10 (this CWA) - Programmer's Reference

Part 68: Text Terminal Unit Device Class Interface - Migration from Version 3.0 (see CWA 14050) to Version 3.10 (this CWA) - Programmer's Reference

Part 69: Sensors and Indicators Unit Device Class Interface - Migration from Version 3.01 (see CWA 14050) to Version 3.10 (this CWA) - Programmer's Reference

Part 70: Vendor Dependent Mode Device Class Interface - Migration from Version 3.0 (see CWA 14050) to Version 3.10 (this CWA) - Programmer's Reference

Part 71: Camera Device Class Interface - Migration from Version 3.0 (see CWA 14050) to Version 3.10 (this CWA) - Programmer's Reference

Part 72: Alarm Device Class Interface - Migration from Version 3.0 (see CWA 14050) to Version 3.10 (this CWA) - Programmer's Reference

Part 73: Card Embossing Unit Device Class Interface - Migration from Version 3.0 (CWA 14050) to Version 3.10 (this CWA) - Programmer's Reference

Part 74: Cash-In Module Device Class Interface - Migration from Version 3.02 (see CWA 14050) to Version 3.10 (this CWA) - Programmer's Reference

In addition to these Programmer's Reference specifications, the reader of this CWA is also referred to a complementary document, called Release Notes. The Release Notes contain clarifications and explanations on the CWA specifications, which are not requiring functional changes. The current version of the Release Notes is available online from <http://www.cen.eu/cen/pages/default.aspx>.

The information in this document represents the Workshop's current views on the issues discussed as of the date of publication. It is furnished for informational purposes only and is subject to change without notice. CEN/ISSS makes no warranty, express or implied, with respect to this document.

The formal process followed by the Workshop in the development of the CEN Workshop Agreement has been endorsed by the National Members of CEN but neither the National Members of CEN nor the CEN-CENELEC Management Centre can be held accountable for the technical content of the CEN Workshop Agreement or possible conflict with standards or legislation. This CEN Workshop Agreement can in no way be held as being an official standard developed by CEN and its members.

The final review/endorsement round for this CWA was started on 2010-06-17 and was successfully closed on 2010-12-22. The final text of this CWA was submitted to CEN for publication on 2011-01-27.

This CEN Workshop Agreement is publicly available as a reference document from the National Members of CEN: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Comments or suggestions from the users of the CEN Workshop Agreement are welcome and should be addressed to the CEN-CENELEC Management Centre.

Revision History:

3.10	December 14, 2010	Initial release.
------	-------------------	------------------

1. Introduction

This document provides the device specific MIB definition (Management Information Base) variables for the xfsBCR sub-tree version one, as foreseen by the *XFS MIB Architecture and SNMP Extensions Programmer's Reference* document. All the attributes in all the MIBs are Mandatory. In the case where a vendor's device does not support an attribute then a request for this unsupported attribute should return NULL.

The xfsBCR version one sub-tree is identified by:

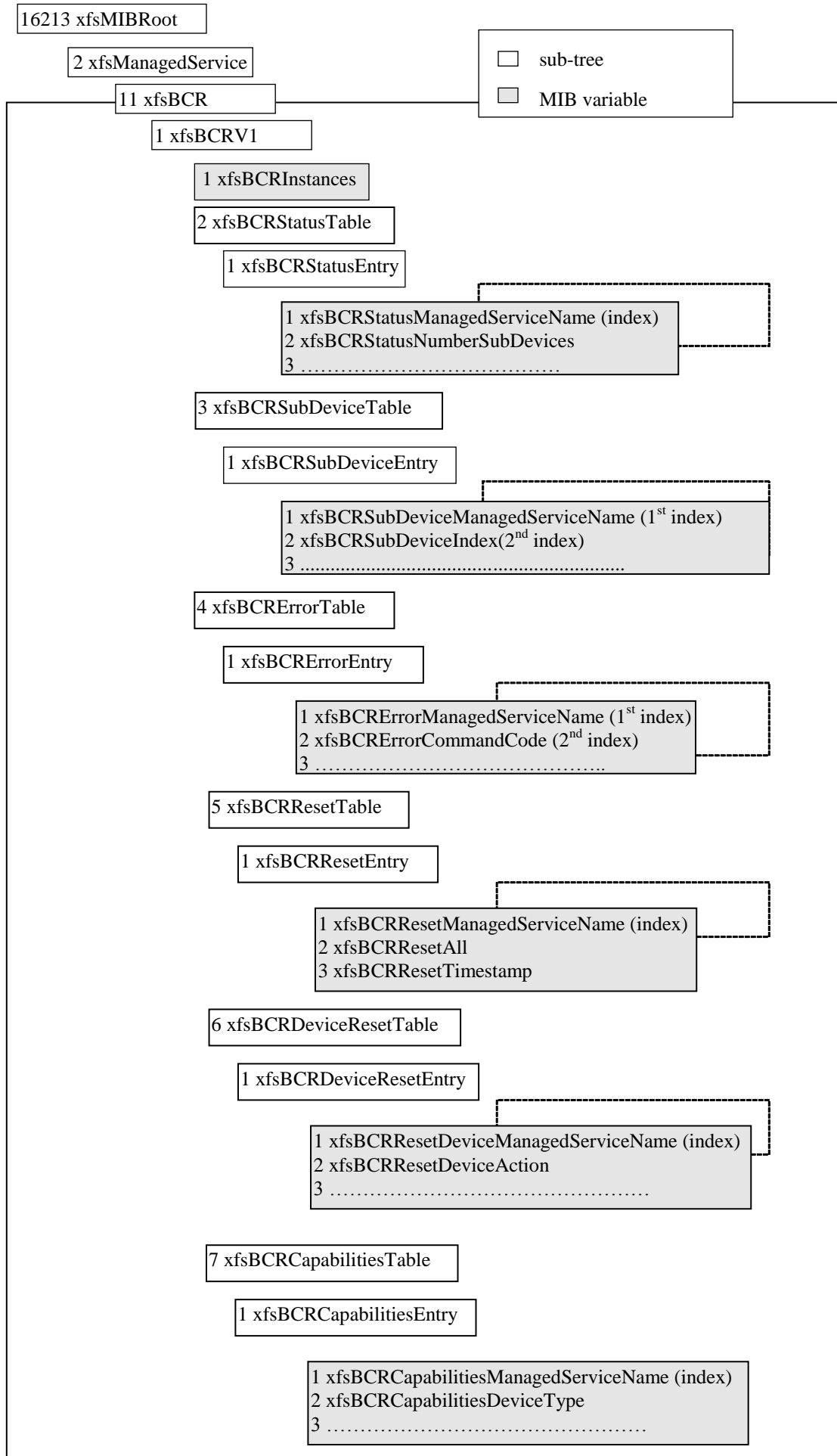
xfsMIBRoot

- xfsManagedService (2)
 - xfsBCR (15)
 - xfsBCRV1 (1)

The xfsBCRV1 sub-tree contains the following variables:

- *xfsBCRInstances(1)* is the number of managed services for the BCR class installed on the XFS subsystem. It is a 32 bit numerical field.
- *xfsBCRStatusTable(2)* identifies the table for the BCR variables.
- *xfsBCRSubDevicesTable(3)* not applicable to the BCR device.
- *xfsBCRErrorTable(4)* identifies the table for BCR error counters.
- *xfsBCRResetTable(5)* identifies the table for the BCR reset variable.
- *xfsBCRResetDeviceTable(6)* identifies the table for the BCR reset device variables.
- *xfsBCRCapabilitiesTable(7)* identifies the table for the BCR capabilities variables.

The *XFS MIB Architecture and SNMP Extensions Programmer's Reference* document provides an overview of the MIB structure. The following picture shows the structure of the *xfsBCRV1* sub-tree.



CWA 15748-46:2011 (E)

Section 3 describes how the Status, Sub-Device, Error, Reset, Reset Device and Capabilities tables apply to the BCR device class.

2. XFS BCR MIB variables

This section describes the MIB variables for the tables of the BCR Class. All variables are 32-bit numerical fields. The description of the variables listed below includes, where it is meaningful, a reference to relevant data structures and commands defined inside the *Barcode Reader Device Class Interface Programmer's Reference*.

The following are some general notes pertaining to the MIB variables:

- All command response counters maintained by the Service Provider are persistent across re-boots.
- One application command may trigger only one command-related counter to be updated.
- One application command may trigger one or multiple status variables to be updated.
- All command response counters are read-writable unless otherwise specified.
- Each managed service has a Reset table that allows all the response counters to be reset.
- Each managed service has a Reset Device table that allows the WFS_CMD_BCR_RESET command to be executed from the management station.

2.1 XFS BCR Status Table

The *xfstBCRStatusTable(2)* groups the variables identifying device status information, statistics and additional variables. It is indexed through a single parameter, *xfstBCRStatusManagedServiceName*. All device status variables are read-only.

Additional variables can be used to contain vendor-dependent variables. These variables do not start immediately after the standard variables in order to allow for expansion of the standard variables, the first additional variable can be added at position 1000.

xfstBCRStatusManagedServiceName is the instance identifier of the managed service and uniquely identifies one instance of the BCR class.

As an example, the identifier for the device status value of *xfstBCRStatusScanner(4)* for a device with managed service name equal to "Barcode1" is as follows:

Character	B	a	r	c	o	d	e	1
ASCII Hex	42	61	72	63	6F	64	65	31
ASCII Dec	66	97	114	99	111	100	101	49

NOTE SNMP OID representation of strings consists of a length field specifying the number of characters in the string followed by the ASCII code in decimal for each character in the string. Therefore the OID of the above example is:

xfstMIBRoot.2.15.1.2.1.4.8.66.97.114.99.111.100.101.49

2.1.1 xfstBCRStatusTable: States

The first three status variables are common across all device classes, the other variables are device class specific.

xfstBCRStatusManagedServiceName (1)

Uniquely identifies the managed service.

xfstBCRStatusNumberSubDevices (2)

Defines how many sub-devices the service has. This is always 0 (zero) in the BCR device class.

xfstBCRStatusDevice (3)

It contains the device state. It is a numeric type field. Allowed values are:

Value	Meaning
<i>xfstDevOnline</i> (1)	The device is present, powered on and online (i.e., operational, not busy processing a request and not in an error state).
<i>xfstDevOffline</i> (2)	The device is offline (e.g., the operator has taken the device offline by turning a switch or pulling out the device).

xfsDevPowerOff(3)	The device is powered off or physically not connected.
xfsDevNoDevice(4)	There is no device intended to be there; e.g. this type of self service machine does not contain such a device or it is internally not configured .
xfsDevHWError(5)	The device is present but inoperable due to a hardware fault that prevents it from being used.
xfsDevUserError(6)	The device is present but a person is preventing proper device operation. The application should suspend the device operation or remove the device from service until the Service Provider generates a device state change event indicating the condition of the device has changed e.g. the error is removed (WFS_BCR_DEVONLINE) or a permanent error condition has occurred (WFS_BCR_DEVHWERROR).
xfsDevBusy(7)	The device is busy and unable to process an execute command at this time.
xfsDevFraudAttempt(8)	The device is present but has detected a fraud attempt.

xfsBCRStatusScanner (4)

Specifies the scanner status (laser, camera or other technology). It is a numeric type field. Allowed values are:

Value	Meaning
xfsBCRScannerOn(1)	Scanner is enabled for reading.
xfsBCRScannerOff(2)	Scanner is disabled.
xfsBCRScannerInop(3)	Scanner is inoperative due to a hardware error.
xfsBCRScannerUnknown(4)	Scanner status cannot be determined.

xfsBCRStatusGuidanceBarcode (5)

Contains the state of the barcode guidance light.

Value	XFS Enumeration	Meaning
0x00000000	WFS_BCR_GUIDANCE_NOT_AVAILABLE	The status is not available.
0x00000001	WFS_BCR_GUIDANCE_OFF	The light is turned off.
0x00000004	WFS_BCR_GUIDANCE_SLOW_FLASH	The light is blinking slowly.
0x00000008	WFS_BCR_GUIDANCE_MEDIUM_FLASH	The light is blinking medium frequency.
0x00000010	WFS_BCR_GUIDANCE_QUICK_FLASH	The light is blinking quickly.
0x00000080	WFS_BCR_GUIDANCE_CONTINUOUS	The light is turned on continuous (steady).
0x00000100	WFS_BCR_GUIDANCE_RED	The light is red.
0x00000200	WFS_BCR_GUIDANCE_GREEN	The light is green.
0x00000400	WFS_BCR_GUIDANCE_YELLOW	The light is yellow.
0x00000800	WFS_BCR_GUIDANCE_BLUE	The light is blue.
0x00001000	WFS_BCR_GUIDANCE_CYAN	The light is cyan.
0x00002000	WFS_BCR_GUIDANCE_MAGENTA	The light is magenta.
0x00004000	WFS_BCR_GUIDANCE_WHITE	The light is white.

xfsBCRStatusDevicePosition (6)

It contains the device position. It is a numeric type field. Allowed values are:

Value	Meaning
xfsBCRDeviceInPosition (1)	The device is in its normal operating position, or is fixed in place and cannot be moved.
xfsBCRDeviceNotInPosition (2)	The device has been removed from its normal operating position.
xfsBCRDevicePosUnknown (3)	Due to a hardware error or other condition, the position of the device cannot be determined.
xfsBCRDevicePosNotSupp (4)	The physical device does not have the capability of detecting the position.

xfsBCRStatusPowerSaveRecoveryTime (7)

It contains the actual number of seconds required by the device to resume its normal operational state from the current power saving mode. This value is zero if either the power saving mode has not been activated or no power save control is supported. It is a numeric type field. An empty list is indicated by two consecutive null characters.

xfsBCRStatusExtraStatus (100)

It contains the vendor dependent additional device status information as an OCTET STRING. The information is returned as a series of "key=value" strings. Each string is null-terminated, with the final string terminating with two null characters.

2.2 XFS BCR Sub Device Table

The BCR service class does not support any sub-devices, therefore the *xfsBCRStatusNumberSubDevices* will be reported as zero. Sub-device tables are usually used to report sub-device status for Cash Units within a CDM or CIM device class.

2.3 XFS BCR Error Table

The *xfsBCRErrorTable(4)* provides access to all command response counters supported by a device class. The error table contains the set of counters for every combination of executable command and associated response that the Service Provider supports. The counters report the number of times that a response has been returned from a particular command since the counts were last reset. Selection of the required counter is made by specifying the managed service name, command code and response code through the following parameters:

xfsBCRErrorManagedServiceName
xfsBCRErrorCommandCode
xfsBCRErrorResponseCode

The *xfsBCRErrorTable* is defined as:

- *xfsBCRErrorManagedServiceName(1)* which provides the primary index to the service in question. It is Display String field. The *xfsBCRErrorManagedServiceName* parameter corresponds to the value of *xfsMIBRoot.xfsGeneral.xfsMIBV1.xfsManagedServiceTable.xfsManagedServiceEntry.xfsManagedServiceName* in the general table. E.g. "Barcode1".
- *xfsBCRErrorCommandCode(2)* is an index which identifies the command code that that response code is related to. It is a 32 bit numerical field.
- *xfsBCRErrorResponseCode(3)* is an index which identifies the response code that the count is required for. It is the absolute value of the error code. It is a 32 bit numerical field.
- *xfsBCRErrorCount(4)* is the count of the number of times that a particular response code has been generated while executing a specific command, since they were last reset. It is a 32 bit numerical field.

All counter variables are read-write. Issue of a Set command on a specific counter with value *x* will result in the individual counter being set to value *x*.

As an example, the identifier for the error count value for the WFS_ERR_INTERNAL_ERROR (-15) error returned from the WFS_CMD_BCR_READ (1501) command for a device with managed service name equal to "Barcode1" is as follows:

xfsMIBRoot.2.15.1.4.1.4.8.66.97.114.99.111.100.101.49.1501.15

2.4 XFS BCR Reset Table

The *xfsBCRResetTable(5)* contains the *xfsBCRResetAll* and *xfsBCRResetTimestamp* variables and is indexed by the single variable, *xfsBCRResetManagedServiceName*. When the *xfsBCRResetAll* variable is set to 0 (zero), all the counters in the error table for the managed service are reset to 0 (zero), all other values are ignored.

The *xfkBCCRResetTable* is defined as:

- *xfkBCCRResetManagedServiceName(1)* which provides the index to the service in question. It is Display String field. The *xfkBCCRResetManagedServiceName* parameter corresponds to the value of *xfsmIBRoot.xfsGeneral.xfsMIBV1.xfsManagedServiceTable.xfsManagedServiceEntry.xfsManagedServiceName* in the general table. E.g. “Barcode1”.
- *xfkBCCRResetAll(2)* is a read-write variable. Issue of a Set command on the *xfkBCCRResetAll* variable with value 0 (zero) will result in all counters for the managed service being reset to value 0 (zero). Any other value will be ignored. A query of the *xfkBCCRResetAll* variable will return 0 (zero).
- *xfkBCCRResetTimestamp(3)* is a read-only variable which represents the UTC date and time when the counters in the error table was reset, it is a Display String field. The data is formatted in the following way: “DD/MM/YYYY HH:MM:SS +ZZZ” where DD/MM/YYYY HH:MM:SS is the local date and time. ZZZ is the bias, which is the difference, in minutes, between Co-ordinated Universal Time (UTC) and local time.

As an example, all the error counts can be reset for a device with managed service name equal to “Barcode1” by setting the value zero in the *xfkBCCRResetAll* variable represented by:

```
xfsmIBRoot.2.15.1.5.1.2.8.66.97.114.99.111.100.101.49
```

2.5 XFS BCR Reset Device Table

The *xfkBCCRResetDeviceTable(6)* is indexed by the single variable, *xfkBCCRResetDeviceManagedServiceName*. This table contains variables which monitor and control the execution of the reset request.

The *xfkBCCRResetDeviceAction* variable is used to initiate a reset. Setting this variable will cause the following to happen:

1. The SNMP agent will determine if a Device Reset is allowed by checking the *RemoteDeviceResetAllowed* configuration flag (see XFS Common Management Configuration section, within the *XFS MIB Architecture and SNMP Extensions Programmer's Reference* document). If it is not allowed then the flow continues with step 5, otherwise the flow continues with step 2.
2. Exclusive access to the device will be obtained.
3. A WFS_CMD_BCR_RESET command will be issued.
4. Exclusive access to the device will be relinquished when the WFS_CMD_BCR_RESET command completes.

NOTE Exclusive access must be relinquished as soon as possible and implemented in such a way that deadlocks are avoided.

5. A *xfkBCCRResetDeviceCompleteTrap* trap will be generated to report the result of the Device Reset request.

The *xfkBCCRResetDeviceTable(6)* is defined as:

- *xfkBCCRResetDeviceManagedServiceName(1)* which provides the index to the service in question. It is a Display String field. The *xfkBCCRResetDeviceManagedServiceName* parameter corresponds to the value of *xfsmIBRoot.xfsGeneral.xfsMIBV1.xfsManagedServiceTable.xfsManagedServiceEntry.xfsManagedServiceName* in the general table. E.g. “Barcode1”.
- *xfkBCCRResetDeviceAction(2)* is a read-write variable. Issue of a Set command on the *xfkBCCRResetDeviceAction* variable with value *executeReset(1)* will result in the device being reset as described above.
- *xfkBCCRResetDeviceMediaControl(3)* is a read-only variable. As there is no media in the BCR device class this variable can only report the *mediaDefault* value.
- *xfkBCCRResetDeviceStatus(4)* is a read only variable This variable can be used to check if a reset operation is still in progress. It is set when the reset is initiated and cleared when the reset command completes.

As an example, the device with managed service name equal to “Barcode1” is reset by setting the *xfkBCCRResetDeviceAction* variable represented by:

```
xfsmIBRoot.2.15.1.6.1.2.6.8.66.97.114.99.111.100.101.49
```

2.6 XFS BCR Capabilities Table

The *xfsBCRCapabilitiesTable(7)* groups the variables identifying device capabilities information and auxiliary variables. It is indexed through a single parameter, *xfsBCRCapabilitiesManagedServiceName*. All device capabilities variables are read-only.

Additional variables can be used to contain vendor-dependent variables. These variables do not start immediately after the standard variables in order to allow for expansion of the standard variables, the first additional variable can be added at position 1000.

xfsBCRCapabilitiesManagedServiceName is the instance identifier of the managed service and uniquely identifies one instance of the BCR class.

As an example, the identifier for the device capabilities value of *xfsBCRCapabilitiesFilterSymbologies(3)* for a device with managed service name equal to "Barcode1" is as follows:

Character	B	a	r	c	o	d	e	1
ASCII Hex	42	61	72	63	6F	64	65	31
ASCII Dec	66	97	114	99	111	100	101	49

NOTE SNMP OID representation of strings consists of a length field specifying the number of characters in the string followed by the ASCII code in decimal for each character in the string. Therefore the OID of the above example is:

xfsMIBRoot.2.15.1.7.1.1.8.66.97.114.99.111.100.101.49

2.6.1 xfsBCRCapabilitiesTable: Capabilities

The first variable is common across all device classes, the other variables are device class specific.

xfsBCRCapabilitiesManagedServiceName (1)
Uniquely identifies the managed service.

xfsBCRCapabilitiesCompoundDevice (2)
Specifies if the logical device is part of a compound device in a TruthValue variable as follows:

Value	Meaning
True(1)	The device is part of a compound device.
False(2)	The device is not part of a compound device.

xfsBCRCapabilitiesFilterSymbologies (3)
Specifies whether the device is capable of discriminating between the presented barcode symbologies in a TruthValue variable as follows:

Value	Meaning
True(1)	The device can recognize/report only desired symbologies.
False(2)	The device cannot recognize/report only desired symbologies.

xfsBCRCapabilitiesGuidanceBarcode (4)

This integer variable specifies the guidance light capability of the barcode reader device. Possible states are reported as a combination of hex values according to the values in the following table:

Value	XFS Name	Meaning
0x00000000	WFS_BCR_GUIDANCE_NOT_AVAILABLE	There is no guidance light control available.
0x00000001	WFS_BCR_GUIDANCE_OFF	The light can be off.
0x00000004	WFS_BCR_GUIDANCE_SLOW_FLASH	The light can blink slowly.

0x00000008	WFS_BCR_GUIDANCE_MEDIUM_FLASH	The light can blink medium frequency.
0x00000010	WFS_BCR_GUIDANCE_QUICK_FLASH	The light can blink quickly.
0x00000080	WFS_BCR_GUIDANCE_CONTINUOUS	The light can be continuous (steady).
0x00000100	WFS_BCR_GUIDANCE_RED	The light can be red.
0x00000200	WFS_BCR_GUIDANCE_GREEN	The light can be green.
0x00000400	WFS_BCR_GUIDANCE_YELLOW	The light can be yellow.
0x00000800	WFS_BCR_GUIDANCE_BLUE	The light can be blue.
0x00001000	WFS_BCR_GUIDANCE_CYAN	The light can be cyan.
0x00002000	WFS_BCR_GUIDANCE_MAGENTA	The light can be magenta.
0x00004000	WFS_BCR_GUIDANCE_WHITE	The light can be white.

xfsBCRCapabilitiesPowerSaveControl (5)

Specifies if power saving control is available for this device in a TruthValue variable as follows:

Value	Meaning
True(1)	The device is part of a compound device.
False(2)	The device is not part of a compound device.

xfsBCRCapabilitiesExtraCapability (100)

Contains vendor dependent additional device capability information as an OCTET STRING. The information is returned as a series of “key=value” strings. Each string is null-terminated, with the final string terminating with two null characters.

Symbologies

The BCR device class defines a list of barcode symbologies that may be supported by the barcode device. These are defined as a zero-terminated array of WORDs so that it can be easily extended for future symbology types. The WORD values are sequential (1, 2, 3 ...) and therefore cannot be combined (OR'd) together to form a single unique value that indicates what symbologies the device supports. For this MIB definition, entries in the Capabilities table above 200 are allocated to define the symbologies supported by the device. The symbologies are grouped together in groups of 16, and the value must be calculated from the symbologies supported by the device.

xfsBCRCapabilitiesSymbologies1 (200)

Specifies support for the barcode symbologies in the following table. It is a numeric type field. This field is a combination of hex values according to the values in the table below:

Hex Value	XFS Literal Name	XFS Literal Value
0x0001	WFS_BCR_SYM_EAN128	(1)
0x0002	WFS_BCR_SYM_EAN8	(2)
0x0004	WFS_BCR_SYM_EAN8_2	(3)
0x0008	WFS_BCR_SYM_EAN8_5	(4)
0x0010	WFS_BCR_SYM_EAN13	(5)
0x0020	WFS_BCR_SYM_EAN13_2	(6)
0x0040	WFS_BCR_SYM_EAN13_5	(7)
0x0080	WFS_BCR_SYM_JAN13	(8)
0x0100	WFS_BCR_SYM_UPCA	(9)
0x0200	WFS_BCR_SYM_UPCE0	(10)
0x0400	WFS_BCR_SYM_UPCE0_2	(11)

0x0800	WFS_BCR_SYM_UPCE0_5	(12)
0x1000	WFS_BCR_SYM_UPCE1	(13)
0x2000	WFS_BCR_SYM_UPCE1_2	(14)
0x4000	WFS_BCR_SYM_UPCE1_5	(15)
0x8000	WFS_BCR_SYM_UPCA_2	(16)

xfsBCRCapabilitiesSymbologies2 (201)

Specifies support for the barcode symbologies in the following table. It is a numeric type field. This field is a combination of hex values according to the values in the table below:

Hex Value	XFS Literal Name	XFS Literal Value
0x0001	WFS_BCR_SYM_UPCA_5	(17)
0x0002	WFS_BCR_SYM_CODABAR	(18)
0x0004	WFS_BCR_SYM_ITF	(19)
0x0008	WFS_BCR_SYM_11	(20)
0x0010	WFS_BCR_SYM_39	(21)
0x0020	WFS_BCR_SYM_49	(22)
0x0040	WFS_BCR_SYM_93	(23)
0x0080	WFS_BCR_SYM_128	(24)
0x0100	WFS_BCR_SYM_MSI	(25)
0x0200	WFS_BCR_SYM_PLESSEY	(26)
0x0400	WFS_BCR_SYM_STD2OF5	(27)
0x0800	WFS_BCR_SYM_STD2OF5_IATA	(28)
0x1000	WFS_BCR_SYM_PDF_417	(29)
0x2000	WFS_BCR_SYM_MICROPDF_417	(30)
0x4000	WFS_BCR_SYM_DATAMATRIX	(31)
0x8000	WFS_BCR_SYM_MAXICODE	(32)

CWA 15748-46:2011 (E)**xfsBCRCapabilitiesSymbologies3 (202)**

Specifies support for the barcode symbologies in the following table. It is a numeric type field. This field is a combination of hex values according to the values in the table below:

Hex Value	XFS Literal Name	XFS Literal Value
0x0001	WFS_BCR_SYM_CODEONE	(33)
0x0002	WFS_BCR_SYM_CHANNELCODE	(34)
0x0004	WFS_BCR_SYM_TELEPEN_ORIGINAL	(35)
0x0008	WFS_BCR_SYM_TELEPEN_AIM	(36)
0x0010	WFS_BCR_SYM_RSS	(37)
0x0020	WFS_BCR_SYM_RSS_EXPANDED	(38)
0x0040	WFS_BCR_SYM_RSS_RESTRICTED	(39)
0x0080	WFS_BCR_SYM_COMPOSITE_CODE_A	(40)
0x0100	WFS_BCR_SYM_COMPOSITE_CODE_B	(41)
0x0200	WFS_BCR_SYM_COMPOSITE_CODE_C	(42)
0x0400	WFS_BCR_SYM_POSICODE_A	(43)
0x0800	WFS_BCR_SYM_POSICODE_B	(44)
0x1000	WFS_BCR_SYM_TRIOPTIC_CODE_39	(45)
0x2000	WFS_BCR_SYM_CODABLOCK_F	(46)
0x4000	WFS_BCR_SYM_CODE_16K	(47)
0x8000	WFS_BCR_SYM_QRCODE	(48)

xfsBCRCapabilitiesSymbologies4 (203)

Specifies support for the barcode symbologies in the following table. It is a numeric type field. This field is a combination of hex values according to the values in the table below:

Hex Value	XFS Literal Name	XFS Literal Value
0x0001	WFS_BCR_SYM_AZTEC	(49)
0x0002	WFS_BCR_SYM_UKPOST	(50)
0x0004	WFS_BCR_SYM_PLANET	(51)
0x0008	WFS_BCR_SYM_POSTNET	(52)
0x0010	WFS_BCR_SYM_CANADIANPOST	(53)
0x0020	WFS_BCR_SYM_NETHERLANDSPOST	(54)
0x0040	WFS_BCR_SYM_AUSTRALIANPOST	(55)
0x0080	WFS_BCR_SYM_JAPANESEPOST	(56)
0x0100	WFS_BCR_SYM_CHINESEPOST	(57)
0x0200	WFS_BCR_SYM_KOREANPOST	(58)

3. BCR Traps

The following sections define XFS Traps that are specific to the BCR device class.

3.1 BCR Detailed Device Status Change Trap

Status changes within managed services are reported as system events to the XFS Agent. The following section explicitly defines the format of the BCR Detailed Device Status Change trap. However, the format is split into two sections; the fields that are common to all device specific traps and the fields that are specific to each device class. The common fields are defined in the *XFS MIB Architecture and SNMP Extensions Programmer's Reference* document. The fields that are specific to the BCR reflect the BCR Status Table as defined in section [2.1](#).

The detailed device status change event is only generated when the top level status changes within a managed service, i.e. the trap is generated when the *fwDevice* value in the WFS_INF_BCR_STATUS response has changed. In addition, this trap is only generated on version 1.1 of the MIB and higher and is sent in addition to the summary device status change trap.

The SNMP Specific trap value 115 defines the trap as a BCR Detailed Device Status Change trap. In the following section, the numbers in parenthesis at the end of each binding just indicate the sequence of the variable bindings within the trap, they do not represent an OID value.

3.1.1 BCR Detailed Device Status Change Trap Format

The following defines the variable bindings included in the BCR Detailed Device Status Change Trap.

`xfsmibRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapSysName (1)`

This variable binding contains the system generating the alarm, it is a Display String field. It corresponds to *lpszWorkstationName* in the device status change event data from the Service Provider.

`xfsmibRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceName (2)`

This variable binding represents the managed service name generating the alarm, it is a Display String field. The agent derives this field from the device status change event.

`xfsmibRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceClass (3)`

This variable binding represents the XFS service class identifier generating the alarm, it is a 32-bit integer (INT32). It corresponds to the class identifier for the class name. The class name is identified from the registry value

`HKEY_LOCAL_MACHINE\SOFTWARE\XFS\MANAGEMENT_PROVIDERS\<ManagedServiceName>\class`. This ID matches the class OID branch number i.e. PTR=1, IDC=2, CDM=3, etc. See the *XFS MIB Architecture and SNMP Extensions Programmer's Reference* document for a complete list of these values.

`xfsmibRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceClassName (4)`

This variable binding represents the XFS service class name generating the alarm, it is a Display String field. It corresponds to the three character representation of the XFS device class name, and it is useful for human interpretation of a trap. The class name is identified from the registry value

`HKEY_LOCAL_MACHINE\SOFTWARE\XFS\MANAGEMENT_PROVIDERS\<ManagedServiceName>\class`.

`xfsmibRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceType (5)`

This variable binding represents the XFS type identifier generating the alarm, it is a 32-bit integer (INT32). It is zero as this device class does not have a type.

`xfsmibRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceOid (6)`

This variable binding represents the OID of the sub-tree within *xfsmManagedService* defining the management information for this class of managed service. This variable, along with the managed service name as an index, prevents the need for additional querying to find the service specific MIB branch. The BCR MIB class is represented by .1.3.6.1.4.1.16213.2.15

`xfsmibRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapPhysicalDeviceName (7)`

This variable binding represents the physical device name or names associated with the managed service generating the alarm, it is a Display String field. It corresponds to the physical device name or names identified by the managed service. The managed service name is used to identify the physical device name or

names, from registry value

HKEY_LOCAL_MACHINE\SOFTWARE\XFS\MANAGEMENT_PROVIDERS*<ManagedServiceName>*\PhysicalDeviceName. Multiple physical device names are comma separated.

xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapDeviceVendor (8)

This variable binding represents the XFS device vendor name of the device generating the alarm, it is a Display String field. It corresponds to the vendor name for the Service Provider. The Service Provider is identified from the managed service name and the registry value

HKEY_LOCAL_MACHINE\SOFTWARE\XFS\MANAGEMENT_PROVIDERS*<ManagedServiceName>*\ServiceProvider.

The Service Provider name is then used to identify the vendor, from the registry value

HKEY_LOCAL_MACHINE\SOFTWARE\XFS\SERVICE_PROVIDERS*<ServiceProviderName>*\vendor_name.

xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapMIBVersion (9)

This variable binding represents the XFS MIB version of the device generating the alarm, it is a Display String field. It corresponds to the XFS MIB version for the managed service. The managed service name is used to identify the XFS MIB version, from registry value

HKEY_LOCAL_MACHINE\SOFTWARE\XFS\MANAGEMENT_PROVIDERS*<ManagedServiceName>*\MibVersion.

xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapEvent (10)

In case of XFS this variable binding represents the XFS event generating the alarm, it is a 32-bit integer (INT32). It corresponds to u.dwEventID in the event data from the Service Provider. See the Application Programming Interface (API) - Service Provider Interface (SPI); Programmer's Reference for a complete description of the event structure.

xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapDate (11)

This variable represents the UTC and bias for local translation of the date and time when the event was generated. It is a Display String field. The data is formatted in the following way: "DD/MM/YYYY HH:MM:SS +ZZZ" where DD/MM/YYYY HH:MM:SS is the local date and time. ZZZ is the bias, which is the difference, in minutes, between Co-ordinated Universal Time (UTC) and local time.

xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapSPVersion (12)

This variable represents the vendor-defined version of the Service Provider generating the alarm, it is a Display String field. The Service Provider is identified from the managed service name and the registry value HKEY_LOCAL_MACHINE\SOFTWARE\XFS\MANAGEMENT_PROVIDERS*<ManagedServiceName>*\ServiceProvider.

The Service Provider name is then used to identify the version, from the registry value

HKEY_LOCAL_MACHINE\SOFTWARE\XFS\SERVICE_PROVIDERS*<ServiceProviderName>*\version.

xfsMIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.**xfsBCRStatusDevice**.xfsBCRStatusManagedServiceName (13)

This variable binding represents the current state of the physical device managed by the service. It is a 32 bit integer (INT32).

xfsMIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.**xfsBCRStatusNumberSubDevices**.xfsBCRStatusManagedServiceName (14)

Defines how many sub-devices the service has. This is zero for this device class.

xfsMIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.**xfsBCRStatusScanner**.xfsBCRStatusManagedServiceName (15)

It contains the scanner status (laser, camera or other technology).

xfsMIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.**xfsBCRStatusGuidanceBarcode**.xfsBCRStatusManagedServiceName (16)

It contains the state of the barcode guidance light indicator.

xfsMIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.**xfsBCRStatusDevicePosition**.xfsBCRStatusManagedServiceName (17)

It contains the device position.

xfMIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.**xfBCRStatusPowerSaveRecoveryTime**.xfsBCRStatusManagedServiceName (18)

It contains the actual number of seconds required by the device to resume its normal operational state from the current power saving mode.

xfMIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.**xfBCRStatusExtraStatus**.xfsBCRStatusManagedServiceName (19)

It contains the vendor dependent additional device status information as an OCTET STRING. The information is returned as a series of "key=value" strings. Each string is null-terminated, with the final string terminating with two null characters.

3.1.2 BCR Detailed Device Status Change Trap: an example

As an example, the following variable binding list represents a detailed device status change trap (6, 115) that is generated for a BCR with a managed service name of "Barcode1". It reports that the device is in HARDWARE ERROR.

xfMIBRoot.3.1.3.1	(xfMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapSysName)
	"SST System 1"
xfMIBRoot.3.1.3.2	(xfMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceName)
	"Barcode1"
xfMIBRoot.3.1.3.3	(xfMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceClasses)
	15 (WFS_SERVICE_CLASS_BCR)
xfMIBRoot.3.1.3.4	(xfMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceClassName)
	"BCR"
xfMIBRoot.3.1.3.5	(xfMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceType)
	0
xfMIBRoot.3.1.3.6	(xfMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceOid)
	".1.3.6.1.4.1.16213.2.15"
xfMIBRoot.3.1.3.7	(xfMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapPhysicalDeviceName)
	"JB Barcode System"
xfMIBRoot.3.1.3.8	(xfMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapDeviceVendor)
	"JB Barcodes 1991"
xfMIBRoot.3.1.3.9	(xfMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapMIBVersion)
	"1.10"
xfMIBRoot.3.1.3.10	(xfMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapEvent)
	4 (WFS_SYSE_DEVICE_STATUS)
xfMIBRoot.3.1.3.11	(xfMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapDate)
	"20/03/2003 15:40:53 -300"
xfMIBRoot.3.1.3.12	(xfMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapSPVersion)
	"1.23"
xfMIBRoot.2.15.1.2.1.3.Index	(xfMIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry. xfBCRStatusDevice .xfsBCRStatusManagedServiceName)
	5 (WFS_STAT_HWERROR)

xfsmIBRoot.2.15.1.2.1.2.Index	(xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusNumberSubDevices.xfsBCRStatusManagedServiceName)
	0 (No sub device)
xfsmIBRoot.2.15.1.2.1.4.Index	(xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusScanner.xfsBCRStatusManagedServiceName)
	2 (xfsBCRScannerOff)
xfsmIBRoot.2.15.1.2.1.5.Index	(xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusGuidanceBarcode.xfsBCRStatusManagedServiceName)
	1 (value corresponding to WFS_BCR_GUIDANCE_OFF)
xfsmIBRoot.2.15.1.2.1.6.Index	(xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusDevicePosition.xfsBCRStatusManagedServiceName)
	1 (xfsBCRDeviceInPosition)
xfsmIBRoot.2.15.1.2.1.7.Index	(xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusPowerSaveRecoveryTime.xfsBCRStatusManagedServiceName)
	3 (3 seconds to recover from power saving mode)
xfsmIBRoot.2.15.1.2.1.100.Index	(xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusExtraStatus.xfsBCRStatusManagedServiceName)
	"\0"\0' (No extra data)

3.2 BCR Sub-Device Status Change Trap

The BCR does not currently support any sub-devices so the BCR Sub-Device Status Change Trap is not currently defined. The SNMP Specific trap value 215 is reserved in case a sub-device is ever added to the BCR device class.

3.3 BCR Reset Device Complete Trap

On the BCR device class this trap reports the completion of the reset device request and includes the status of the device at that point. If the reset has changed the status of the device then the Device Status Change and a Detail Device Status traps will also be generated.

The SNMP Specific trap value 315 defines the trap as a BCR Reset Device Complete trap.

3.3.1 BCR Reset Device Complete Trap Format

The following defines the variable bindings included in the BCR Reset Device Complete Trap. In the following section, the numbers in parenthesis at the end of each binding just indicate the sequence of the variable bindings within the trap, they do not represent an OID value.

xfsmIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapResetDeviceResult (1)

This variable binding contains a value indicating if the reset was executed, and if not provides a reason. It does not report the status of the device (i.e. the result of the reset), the current status of the device is reported within the **xfsBCRStatusDevice** binding (var bind 12 below).

xfsmIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceName (2)

This variable binding represents the managed service name generating the alarm, it is a Display String field. The agent derives this field from the device status change event.

xfsmIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceClass (3)

This variable binding represents the XFS service class identifier generating the alarm, it is a 32-bit integer (INT32). It corresponds to the class identifier for the class name. The class name is identified from the registry value

HKEY_LOCAL_MACHINE\SOFTWARE\XFS\MANAGEMENT_PROVIDERS*<ManagedServiceName>*class. This ID matches the class OID branch number i.e. PTR=1, IDC=2, CDM=3, etc. See the *XFS MIB Architecture and SNMP Extensions Programmer's Reference* document for a complete list of these values.

xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceClassName (4)

This variable binding represents the XFS service class name generating the alarm, it is a Display String field. It corresponds to the three character representation of the XFS device class name, and it is useful for human interpretation of a trap. The class name is identified from the registry value

HKEY_LOCAL_MACHINE\SOFTWARE\XFS\MANAGEMENT_PROVIDERS*<ManagedServiceName>*class.

xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceType (5)

This variable binding represents the XFS type identifier generating the alarm, it is a 32-bit integer (INT32). It is zero as this device class does not have a type.

xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceOid (6)

This variable binding represents the OID of the sub-tree within *xfsManagedService* defining the management information for this class of managed service. This variable, along with the managed service name as an index, prevents the need for additional querying to find the service specific MIB branch. The BCR MIB class is represented by .1.3.6.1.4.1.16213.2.15

xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapPhysicalDeviceName (7)

This variable binding represents the physical device name or names associated with the managed service generating the alarm, it is a Display String field. It corresponds to the physical device name or names identified by the managed service. The managed service name is used to identify the physical device name or names, from registry value

HKEY_LOCAL_MACHINE\SOFTWARE\XFS\MANAGEMENT_PROVIDERS*<ManagedServiceName>*PhysicalDeviceName. Multiple physical device names are comma separated .

xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapDeviceVendor (8)

This variable binding represents the XFS device vendor name of the device generating the alarm, it is a Display String field. It corresponds to the vendor name for the Service Provider. The Service Provider is identified from the managed service name and the registry value

HKEY_LOCAL_MACHINE\SOFTWARE\XFS\MANAGEMENT_PROVIDERS*<ManagedServiceName>*ServiceProvider.

The Service Provider name is then used to identify the vendor, from the registry value

HKEY_LOCAL_MACHINE\SOFTWARE\XFS\SERVICE_PROVIDERS*<ServiceProviderName>*\vendor_name.

xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapMIBVersion (9)

This variable binding represents the XFS MIB version of the device generating the alarm, it is a Display String field. It corresponds to the XFS MIB version for the managed service. The managed service name is used to identify the XFS MIB version, from registry value

HKEY_LOCAL_MACHINE\SOFTWARE\XFS\MANAGEMENT_PROVIDERS*<ManagedServiceName>*MibVersion.

xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapDate (10)

This variable represents the UTC and bias for local translation of the date and time when the event was generated. It is a Display String field. The data is formatted in the following way: "DD/MM/YYYY HH:MM:SS +ZZZ" where DD/MM/YYYY HH:MM:SS is the local date and time. ZZZ is the bias, which is the difference, in minutes, between Co-ordinated Universal Time (UTC) and local time.

xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapSPVersion (11)

This variable represents the vendor-defined version of the Service Provider generating the alarm, it is a Display String field. The Service Provider is identified from the managed service name and the registry value HKEY_LOCAL_MACHINE\SOFTWARE\XFS\MANAGEMENT_PROVIDERS*<ManagedServiceName>*ServiceProvider.

The Service Provider name is then used to identify the version, from the registry value

HKEY_LOCAL_MACHINE\SOFTWARE\XFS\SERVICE_PROVIDERS*<ServiceProviderName>*\version.

xfsMIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusDevice.xfsBCRStatusManagedServiceName (12)

This variable binding represents the current state of the physical device managed by the service. It is a 32 bit integer (INT32).

xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusNumberSubDevices.xfsBCRStatusManagedServiceName (13)

Defines how many sub-devices the service has. This is zero for this device class.

xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusScanner.xfsBCRStatusManagedServiceName (14)

Specifies the scanner status (laser, camera or other technology).

xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusGuidanceBarcode.xfsBCRStatusManagedServiceName (15)

Contains the state of the barcode guidance light indicator.

xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusDevicePosition.xfsBCRStatusManagedServiceName (16)

Contains the device position.

xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusPowerSaveRecoveryTime.xfsBCRStatusManagedServiceName (17)

Contains the actual number of seconds required by the device to resume its normal operational state from the current power saving mode.

xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusExtraStatus.xfsBCRStatusManagedServiceName (18)

It contains the vendor dependent additional device status information as an OCTET STRING. The information is returned as a series of "key=value" strings. Each string is null-terminated, with the final string terminating with two null characters.

3.3.2 BCR Reset Device Complete: an example

As an example, the following variable binding list represents a Reset Device Complete trap (6, 315) generated as a result of a request to reset the device from the remote management station. The device in question has a managed service name "Barcode1".

xfsmIBRoot.3.1.3.13	(xfsmIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapResetDeviceResult)
	0 (resetExecuted)
xfsmIBRoot.3.1.3.2	(xfsmIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceName)
	"Barcode1"
xfsmIBRoot.3.1.3.3	(xfsmIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceClasses)
	15 (WFS_SERVICE_CLASS_BCR)
xfsmIBRoot.3.1.3.4	(xfsmIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceClassesName)
	"BCR"
xfsmIBRoot.3.1.3.5	(xfsmIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceType)
	0
xfsmIBRoot.3.1.3.6	(xfsmIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceOid)
	"1.3.6.1.4.1.16213.2.15"
xfsmIBRoot.3.1.3.7	(xfsmIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapPhysicalDeviceName)

	e)
	“JB Barcode System”
xfsmIBRoot.3.1.3.8	(xfsmIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapDeviceVendor)
	“JB Barcodes 1991”
xfsmIBRoot.3.1.3.9	(xfsmIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapMIBVersion)
	“1.10”
xfsmIBRoot.3.1.3.11	(xfsmIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapDate)
	“20/03/2003 15:40:53 -300”
xfsmIBRoot.3.1.3.12	(xfsmIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapSPVersion)
	“1.23”
xfsmIBRoot.2.15.1.2.1.3.Index	(xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusDevice.xfsBCRStatusManagedServiceName)
	5 (WFS_STAT_HWERROR)
xfsmIBRoot.2.15.1.2.1.2.Index	(xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusNumberSubDevices.xfsBCRStatusManagedServiceName)
	0 (No sub device)
xfsmIBRoot.2.15.1.2.1.4.Index	(xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusScanner.xfsBCRStatusManagedServiceName)
	2 (xfsBCRScannerOff)
xfsmIBRoot.2.15.1.2.1.5.Index	(xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusGuidanceBarcode.xfsBCRStatusManagedServiceName)
	1 (value corresponding to WFS_BCR_GUIDANCE_OFF)
xfsmIBRoot.2.15.1.2.1.6.Index	(xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusDevicePosition.xfsBCRStatusManagedServiceName)
	1 (xfsBCRDeviceInPosition)
xfsmIBRoot.2.15.1.2.1.7.Index	(xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusPowerSaveRecoveryTime.xfsBCRStatusManagedServiceName)
	3 (3 seconds to recover from power saving mode)
xfsmIBRoot.2.15.1.2.1.100.Index	(xfsmIBRoot.xfsManagedService.xfsBCR.xfsBCRV1.xfsBCRStatusTable.xfsBCRStatusEntry.xfsBCRStatusExtraStatus.xfsBCRStatusManagedServiceName)
	"0"0' (No extra data)

4. Appendix A - BCR MIB sub-tree

The following paragraph contains the definition of the XFS BCR MIB sub-tree in ASN-1 format.

4.1 BCR MIB in SMIv2 and SMIv1 format



SMIv1_xfsBCR.mib



SMIv2_xfsBCR.mib

The following text is the content of xfsSIU.mib in SMIv2 format.

```

-- *****
-- XFS MIB for BCR
-- Management Information Base for XFS BCR Device
--
-- The BCR Number is 15
-- The ASN.1 prefix to, and including the BCR is:
--     1.3.6.1.4.1.16213.2.15
--
-- *****

XFS-BCR-MIB DEFINITIONS ::= BEGIN

    IMPORTS
        Integer32, OBJECT-TYPE, OBJECT-IDENTITY, NOTIFICATION-TYPE
            FROM SNMPv2-SMI
        DisplayString, TruthValue
            FROM SNMPv2-TC
        xfsBCR, xfsTrap, IxfsMIBDeviceStatus
            FROM XFSMIB;

--
-- Type definitions
--

-- Type definitions
--
IxfsBCRScannerStatus ::= INTEGER
{
    xfsBCRScannerOn(1),
    xfsBCRScannerOff(2),
    xfsBCRScannerInop(3),
    xfsBCRScannerUnknown(4)
}

IxfsBCRDevicePositionStatus ::= INTEGER
{
    xfsBCRDeviceInPosition(1),
    xfsBCRDeviceNotInPosition(2),
    xfsBCRDevicePosUnknown(3),
    xfsBCRDevicePosNotSupp(4)
}

--
-- Node definitions
--

-- Node definitions
--
-- 1.3.6.1.4.1.16213.2.15.1
-- 1.3.6.1.4.1.16213.2.15.1
xfsBCRV1 OBJECT IDENTIFIER ::= { xfsBCR 1 }

--
-- 1.3.6.1.4.1.16213.2.15.1.1
-- 1.3.6.1.4.1.16213.2.15.1.1
xfsBCRInstances OBJECT-TYPE

```



```

SYNTAX Integer32
MAX-ACCESS read-only
STATUS current
DESCRIPTION
    "Number that represents the number of BCR managed services."
 ::= { xfsBCRV1 1 }

-- 1.3.6.1.4.1.16213.2.15.1.2
-- 1.3.6.1.4.1.16213.2.15.1.2
xfsBCRStatusTable OBJECT-TYPE
    SYNTAX SEQUENCE OF XfsBCRStatusEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "Define the set of MIB Variables for the BCR status table."
    ::= { xfsBCRV1 2 }

-- 1.3.6.1.4.1.16213.2.15.1.2.1
-- 1.3.6.1.4.1.16213.2.15.1.2.1
xfsBCRStatusEntry OBJECT-TYPE
    SYNTAX XfsBCRStatusEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "BCR Device Status Table Entry."
    INDEX { xfsBCRStatusManagedServiceName }
    ::= { xfsBCRStatusTable 1 }

XfsBCRStatusEntry ::=
    SEQUENCE {
        xfsBCRStatusManagedServiceName
            DisplayString,
        xfsBCRStatusNumberSubDevices
            Integer32,
        xfsBCRStatusDevice
            IxfsMIBDeviceStatus,
        xfsBCRStatusScanner
            IxfsBCRScannerStatus,
        xfsBCRStatusGuidanceBarcode
            Integer32,
        xfsBCRStatusDevicePosition
            IxfsBCRDevicePositionStatus,
        xfsBCRStatusPowerSaveRecoveryTime
            Integer32,
        xfsBCRStatusExtraStatus
            OCTET STRING
    }

-- 1.3.6.1.4.1.16213.2.15.1.2.1.1
-- 1.3.6.1.4.1.16213.2.15.1.2.1.1
xfsBCRStatusManagedServiceName OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Instance identifier of the managed service."
    ::= { xfsBCRStatusEntry 1 }

-- 1.3.6.1.4.1.16213.2.15.1.2.1.2
-- 1.3.6.1.4.1.16213.2.15.1.2.1.2
xfsBCRStatusNumberSubDevices OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Number of sub devices supported by the BCR device."
    ::= { xfsBCRStatusEntry 2 }

-- 1.3.6.1.4.1.16213.2.15.1.2.1.3
-- 1.3.6.1.4.1.16213.2.15.1.2.1.3

```

CWA 15748-46:2011 (E)

```
xfsBCRStatusDevice OBJECT-TYPE
    SYNTAX IxfsMIBDeviceStatus
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Device status."
    ::= { xfsBCRStatusEntry 3 }

-- 1.3.6.1.4.1.16213.2.15.1.2.1.4
-- 1.3.6.1.4.1.16213.2.15.1.2.1.4
xfsBCRStatusScanner OBJECT-TYPE
    SYNTAX IxfsBCRScannerStatus
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Specifies the scanner status (laser, camera or other technology)."
    ::= { xfsBCRStatusEntry 4 }

-- 1.3.6.1.4.1.16213.2.15.1.2.1.5
-- 1.3.6.1.4.1.16213.2.15.1.2.1.5
xfsBCRStatusGuidanceBarcode OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Contains the state of the barcode guidance light indicator."
    ::= { xfsBCRStatusEntry 5 }

-- 1.3.6.1.4.1.16213.2.15.1.2.1.6
-- 1.3.6.1.4.1.16213.2.15.1.2.1.6
xfsBCRStatusDevicePosition OBJECT-TYPE
    SYNTAX IxfsBCRDevicePositionStatus
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Contains the device position."
    ::= { xfsBCRStatusEntry 6 }

-- 1.3.6.1.4.1.16213.2.15.1.2.1.7
-- 1.3.6.1.4.1.16213.2.15.1.2.1.7
xfsBCRStatusPowerSaveRecoveryTime OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Contains the actual number of seconds required by the device to resume its
normal operational state from the current power saving mode."
    ::= { xfsBCRStatusEntry 7 }

-- 1.3.6.1.4.1.16213.2.15.1.2.1.100
-- 1.3.6.1.4.1.16213.2.15.1.2.1.100
xfsBCRStatusExtraStatus OBJECT-TYPE
    SYNTAX OCTET STRING
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Vendor dependent additional device status information."
    ::= { xfsBCRStatusEntry 100 }

-- 1.3.6.1.4.1.16213.2.15.1.3
-- 1.3.6.1.4.1.16213.2.15.1.3
xfsBCRSubDeviceTable OBJECT-TYPE
    SYNTAX SEQUENCE OF XfsBCRSubDeviceEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "Define the set of MIB Variables for the BCR Sub-Device Status Table."
    ::= { xfsBCRV1 3 }
```

```

-- 1.3.6.1.4.1.16213.2.15.1.3.1
-- 1.3.6.1.4.1.16213.2.15.1.3.1
xfsBCRSubDeviceEntry OBJECT-TYPE
    SYNTAX XfsBCRSubDeviceEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "BCR Sub-Device Status Table Entry."
    INDEX { xfsBCRSubDeviceManagedServiceName, xfsBCRSubDeviceIndex }
    ::= { xfsBCRSubDeviceTable 1 }

XfsBCRSubDeviceEntry ::=
    SEQUENCE {
        xfsBCRSubDeviceManagedServiceName
            DisplayString,
        xfsBCRSubDeviceIndex
            INTEGER
    }

-- 1.3.6.1.4.1.16213.2.15.1.3.1.1
-- 1.3.6.1.4.1.16213.2.15.1.3.1.1
xfsBCRSubDeviceManagedServiceName OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Instance identifier of the managed service."
    ::= { xfsBCRSubDeviceEntry 1 }

-- 1.3.6.1.4.1.16213.2.15.1.3.1.2
-- 1.3.6.1.4.1.16213.2.15.1.3.1.2
xfsBCRSubDeviceIndex OBJECT-TYPE
    SYNTAX INTEGER (1..65535)
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Index into the array of sub devices supported."
    ::= { xfsBCRSubDeviceEntry 2 }

-- 1.3.6.1.4.1.16213.2.15.1.4
-- 1.3.6.1.4.1.16213.2.15.1.4
xfsBCRErrorTable OBJECT-TYPE
    SYNTAX SEQUENCE OF XfsBCRErrorEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "Define the set of MIB Variables for the BCR Error Table."
    ::= { xfsBCRV1 4 }

-- 1.3.6.1.4.1.16213.2.15.1.4.1
-- 1.3.6.1.4.1.16213.2.15.1.4.1
xfsBCRErrorEntry OBJECT-TYPE
    SYNTAX XfsBCRErrorEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "BCR Error Table Entry."
    INDEX { xfsBCRErrorManagedServiceName, xfsBCRErrorCommandCode,
xfsBCRErrorResponseCode }
    ::= { xfsBCRErrorTable 1 }

XfsBCRErrorEntry ::=
    SEQUENCE {
        xfsBCRErrorManagedServiceName
            DisplayString,
        xfsBCRErrorCommandCode
            INTEGER,
        xfsBCRErrorResponseCode
            INTEGER,
    }

```

CWA 15748-46:2011 (E)

```
        xfsBCRErrorCount
            Integer32
    }

-- 1.3.6.1.4.1.16213.2.15.1.4.1.1
-- 1.3.6.1.4.1.16213.2.15.1.4.1.1
xfsBCRErrorManagedServiceName OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Instance identifier of the managed service."
    ::= { xfsBCRErrorEntry 1 }

-- 1.3.6.1.4.1.16213.2.15.1.4.1.2
-- 1.3.6.1.4.1.16213.2.15.1.4.1.2
xfsBCRErrorCommandCode OBJECT-TYPE
    SYNTAX INTEGER (1501..1600)
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "The executable command code supported by the Service
        Provider associated with the error count of interest."
    ::= { xfsBCRErrorEntry 2 }

-- 1.3.6.1.4.1.16213.2.15.1.4.1.3
-- 1.3.6.1.4.1.16213.2.15.1.4.1.3
xfsBCRErrorResponseCode OBJECT-TYPE
    SYNTAX INTEGER (0..99 | 1500..1599)
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "The response code supported by Service Provider for the
        corresponding command code associated with the error count
        of interest."
    ::= { xfsBCRErrorEntry 3 }

-- 1.3.6.1.4.1.16213.2.15.1.4.1.4
-- 1.3.6.1.4.1.16213.2.15.1.4.1.4
xfsBCRErrorCount OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-write
    STATUS current
    DESCRIPTION
        "The counter value corresponding to the managed service,
        command code and response code."
    ::= { xfsBCRErrorEntry 4 }

-- 1.3.6.1.4.1.16213.2.15.1.5
-- 1.3.6.1.4.1.16213.2.15.1.5
xfsBCRResetTable OBJECT-TYPE
    SYNTAX SEQUENCE OF XfsBCRResetEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "Defines the set of MIB Variables for the BCR Reset Table."
    ::= { xfsBCRV1 5 }

-- 1.3.6.1.4.1.16213.2.15.1.5.1
-- 1.3.6.1.4.1.16213.2.15.1.5.1
xfsBCRResetEntry OBJECT-TYPE
    SYNTAX XfsBCRResetEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "BCR Reset Table Entry."
    INDEX { xfsBCRResetManagedServiceName }
    ::= { xfsBCRResetTable 1 }
```

```

XfsBCRResetEntry ::=
    SEQUENCE {
        xfsBCRResetManagedServiceName
            DisplayString,
        xfsBCRResetAll
            Integer32,
        xfsBCRResetTimestamp
            DisplayString
    }

-- 1.3.6.1.4.1.16213.2.15.1.5.1.1
-- 1.3.6.1.4.1.16213.2.15.1.5.1.1
xfsBCRResetManagedServiceName OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Instance identifier of the managed service."
    ::= { xfsBCRResetEntry 1 }

-- 1.3.6.1.4.1.16213.2.15.1.5.1.2
-- 1.3.6.1.4.1.16213.2.15.1.5.1.2
xfsBCRResetAll OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-write
    STATUS current
    DESCRIPTION
        "Returns all counter values for this managed service to
         zero when set to zero and returns zero when read."
    ::= { xfsBCRResetEntry 2 }

-- 1.3.6.1.4.1.16213.2.15.1.5.1.3
-- 1.3.6.1.4.1.16213.2.15.1.5.1.3
xfsBCRResetTimestamp OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Date and time the last reset of the counters was performed."
    ::= { xfsBCRResetEntry 3 }

-- 1.3.6.1.4.1.16213.2.15.1.6
-- 1.3.6.1.4.1.16213.2.15.1.6
xfsBCRResetDeviceTable OBJECT-TYPE
    SYNTAX SEQUENCE OF XfsBCRResetDeviceEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "Define the set of MIB Variables for the BCR Reset Device Table."
    ::= { xfsBCRV1 6 }

-- 1.3.6.1.4.1.16213.2.15.1.6.1
-- 1.3.6.1.4.1.16213.2.15.1.6.1
xfsBCRResetDeviceEntry OBJECT-TYPE
    SYNTAX XfsBCRResetDeviceEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "BCR Reset Device Table Entry."
    INDEX { xfsBCRResetDeviceManagedServiceName }
    ::= { xfsBCRResetDeviceTable 1 }

XfsBCRResetDeviceEntry ::=
    SEQUENCE {
        xfsBCRResetDeviceManagedServiceName
            DisplayString,
        xfsBCRResetDeviceAction
            INTEGER,
        xfsBCRResetDeviceMediaControl
            INTEGER,
    }

```

CWA 15748-46:2011 (E)

```
        xfsBCRResetDeviceStatus
            INTEGER
    }

-- 1.3.6.1.4.1.16213.2.15.1.6.1.1
-- 1.3.6.1.4.1.16213.2.15.1.6.1.1
xfsBCRResetDeviceManagedServiceName OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Instance identifier of the managed service."
    ::= { xfsBCRResetDeviceEntry 1 }

-- 1.3.6.1.4.1.16213.2.15.1.6.1.2
-- 1.3.6.1.4.1.16213.2.15.1.6.1.2
xfsBCRResetDeviceAction OBJECT-TYPE
    SYNTAX INTEGER { executeReset(1) }
    MAX-ACCESS read-write
    STATUS current
    DESCRIPTION
        "Variable that initiates the device reset"
    ::= { xfsBCRResetDeviceEntry 2 }

-- 1.3.6.1.4.1.16213.2.15.1.6.1.3
-- 1.3.6.1.4.1.16213.2.15.1.6.1.3
xfsBCRResetDeviceMediaControl OBJECT-TYPE
    SYNTAX INTEGER { mediaDefault(1) }
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Variable that reports the media handling during the device reset"
    ::= { xfsBCRResetDeviceEntry 3 }

-- 1.3.6.1.4.1.16213.2.15.1.6.1.4
-- 1.3.6.1.4.1.16213.2.15.1.6.1.4
xfsBCRResetDeviceStatus OBJECT-TYPE
    SYNTAX INTEGER
    {
        resetIdle(1),
        resetInProgress(2)
    }
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Variable that reports the progress of the device reset"
    ::= { xfsBCRResetDeviceEntry 4 }

-- 1.3.6.1.4.1.16213.2.15.1.7
-- 1.3.6.1.4.1.16213.2.15.1.7
xfsBCRCapabilitiesTable OBJECT-TYPE
    SYNTAX SEQUENCE OF XfsBCRCapabilitiesEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "Define the set of MIB Variables for the BCR capabilities table."
    ::= { xfsBCRV1 7 }

-- 1.3.6.1.4.1.16213.2.15.1.7.1
-- 1.3.6.1.4.1.16213.2.15.1.7.1
xfsBCRCapabilitiesEntry OBJECT-TYPE
    SYNTAX XfsBCRCapabilitiesEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "BCR Device Capabilities Table Entry."
    INDEX { xfsBCRCapabilitiesManagedServiceName }
    ::= { xfsBCRCapabilitiesTable 1 }
```

```

XfsBCRCapabilitiesEntry ::=
SEQUENCE {
    xfsBCRCapabilitiesManagedServiceName
        DisplayString,
    xfsBCRCapabilitiesCompoundDevice
        TruthValue,
    xfsBCRCapabilitiesFilterSymbologies
        TruthValue,
    xfsBCRCapabilitiesGuidanceBarcode
        Integer32,
    xfsBCRCapabilitiesPowerSaveControl
        TruthValue,
    xfsBCRCapabilitiesExtraCapability
        OCTET STRING,
    xfsBCRCapabilitiesSymbologies1
        Integer32,
    xfsBCRCapabilitiesSymbologies2
        Integer32,
    xfsBCRCapabilitiesSymbologies3
        Integer32,
    xfsBCRCapabilitiesSymbologies4
        Integer32
}

-- 1.3.6.1.4.1.16213.2.15.1.7.1.1
-- 1.3.6.1.4.1.16213.2.15.1.7.1.1
xfsBCRCapabilitiesManagedServiceName OBJECT-TYPE
SYNTAX DisplayString
MAX-ACCESS read-only
STATUS current
DESCRIPTION
    "Instance identifier of the managed service."
 ::= { xfsBCRCapabilitiesEntry 1 }

-- 1.3.6.1.4.1.16213.2.15.1.7.1.2
-- 1.3.6.1.4.1.16213.2.15.1.7.1.2
xfsBCRCapabilitiesCompoundDevice OBJECT-TYPE
SYNTAX TruthValue
MAX-ACCESS read-only
STATUS current
DESCRIPTION
    "Specifies if the logical device is part of a compound device."
 ::= { xfsBCRCapabilitiesEntry 2 }

-- 1.3.6.1.4.1.16213.2.15.1.7.1.3
-- 1.3.6.1.4.1.16213.2.15.1.7.1.3
xfsBCRCapabilitiesFilterSymbologies OBJECT-TYPE
SYNTAX TruthValue
MAX-ACCESS read-only
STATUS current
DESCRIPTION
    "Specifies whether the device is capable of discriminating between the
presented barcode symbologies."
 ::= { xfsBCRCapabilitiesEntry 3 }

-- 1.3.6.1.4.1.16213.2.15.1.7.1.4
-- 1.3.6.1.4.1.16213.2.15.1.7.1.4
xfsBCRCapabilitiesGuidanceBarcode OBJECT-TYPE
SYNTAX Integer32
MAX-ACCESS read-only
STATUS current
DESCRIPTION
    "Specifies the guidance light capability of the barcode reader device."
 ::= { xfsBCRCapabilitiesEntry 4 }

-- 1.3.6.1.4.1.16213.2.15.1.7.1.5
-- 1.3.6.1.4.1.16213.2.15.1.7.1.5
xfsBCRCapabilitiesPowerSaveControl OBJECT-TYPE
SYNTAX TruthValue
MAX-ACCESS read-only
STATUS current

```

CWA 15748-46:2011 (E)

```
DESCRIPTION
    "Specifies if power saving control is available ."
    ::= { xfsBCRCapabilitiesEntry 5 }

-- 1.3.6.1.4.1.16213.2.15.1.7.1.100
-- 1.3.6.1.4.1.16213.2.15.1.7.1.100
xfsBCRCapabilitiesExtraCapability OBJECT-TYPE
    SYNTAX OCTET STRING
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Vendor dependent additional device capabilities information."
    ::= { xfsBCRCapabilitiesEntry 100 }

-- 1.3.6.1.4.1.16213.2.15.1.7.1.200
-- 1.3.6.1.4.1.16213.2.15.1.7.1.200
xfsBCRCapabilitiesSymbologies1 OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-write
    STATUS current
    DESCRIPTION
        "Specifies support for the barcode symbologies in the following table.

        Hex Value  XFS Literal Name  XFS Literal Value
        0x0001     WFS_BCR_SYM_EAN128  (1)
        0x0002     WFS_BCR_SYM_EAN8   (2)
        0x0004     WFS_BCR_SYM_EAN8_2 (3)
        0x0008     WFS_BCR_SYM_EAN8_5 (4)
        0x0010     WFS_BCR_SYM_EAN13  (5)
        0x0020     WFS_BCR_SYM_EAN13_2 (6)
        0x0040     WFS_BCR_SYM_EAN13_5 (7)
        0x0080     WFS_BCR_SYM_JAN13  (8)
        0x0100     WFS_BCR_SYM_UPCA   (9)
        0x0200     WFS_BCR_SYM_UPCE0  (10)
        0x0400     WFS_BCR_SYM_UPCE0_2 (11)
        0x0800     WFS_BCR_SYM_UPCE0_5 (12)
        0x1000     WFS_BCR_SYM_UPCE1  (13)
        0x2000     WFS_BCR_SYM_UPCE1_2 (14)
        0x4000     WFS_BCR_SYM_UPCE1_5 (15)
        0x8000     WFS_BCR_SYM_UPCA_2  (16)
        "
    ::= { xfsBCRCapabilitiesEntry 200 }

-- 1.3.6.1.4.1.16213.2.15.1.7.1.201
-- 1.3.6.1.4.1.16213.2.15.1.7.1.201
xfsBCRCapabilitiesSymbologies2 OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Specifies support for the barcode symbologies in the following table.

        Hex Value  XFS Literal Name  XFS Literal Value
        0x0001     WFS_BCR_SYM_UPCA_5  (17)
        0x0002     WFS_BCR_SYM_CODABAR (18)
        0x0004     WFS_BCR_SYM_ITF    (19)
        0x0008     WFS_BCR_SYM_11     (20)
        0x0010     WFS_BCR_SYM_39     (21)
        0x0020     WFS_BCR_SYM_49     (22)
        0x0040     WFS_BCR_SYM_93     (23)
        0x0080     WFS_BCR_SYM_128    (24)
        0x0100     WFS_BCR_SYM_MSI    (25)
        0x0200     WFS_BCR_SYM_PLESSEY (26)
        0x0400     WFS_BCR_SYM_STD2OF5 (27)
        0x0800     WFS_BCR_SYM_STD2OF5_IATA (28)
        0x1000     WFS_BCR_SYM_PDF_417 (29)
        0x2000     WFS_BCR_SYM_MICROPDF 417 (30)
        0x4000     WFS_BCR_SYM_DATAMATRIX (31)
        0x8000     WFS_BCR_SYM_MAXICODE (32)
        "
    ::= { xfsBCRCapabilitiesEntry 201 }
```



```

-- 1.3.6.1.4.1.16213.2.15.1.7.1.202
-- 1.3.6.1.4.1.16213.2.15.1.7.1.202
xfsBCRCapabilitiesSymbolologies3 OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Specifies support for the barcode symbolologies in the following table.

        Hex Value   XFS Literal Name           XFS Literal Value
        0x0001     WFS_BCR_SYM_CODEONE        (33)
        0x0002     WFS_BCR_SYM_CHANNELCODE    (34)
        0x0004     WFS_BCR_SYM_TELEPEN_ORIGINAL (35)
        0x0008     WFS_BCR_SYM_TELEPEN_AIM    (36)
        0x0010     WFS_BCR_SYM_RSS            (37)
        0x0020     WFS_BCR_SYM_RSS_EXPANDED   (38)
        0x0040     WFS_BCR_SYM_RSS_RESTRICTED (39)
        0x0080     WFS_BCR_SYM_COMPOSITE_CODE_A (40)
        0x0100     WFS_BCR_SYM_COMPOSITE_CODE_B (41)
        0x0200     WFS_BCR_SYM_COMPOSITE_CODE_C (42)
        0x0400     WFS_BCR_SYM_POSICODE_A     (43)
        0x0800     WFS_BCR_SYM_POSICODE_B     (44)
        0x1000     WFS_BCR_SYM_TRIOPTIC_CODE_39 (45)
        0x2000     WFS_BCR_SYM_CODABLOCK_F    (46)
        0x4000     WFS_BCR_SYM_CODE_16K       (47)
        0x8000     WFS_BCR_SYM_QRCODE         (48)
        "
    ::= { xfsBCRCapabilitiesEntry 202 }

-- 1.3.6.1.4.1.16213.2.15.1.7.1.203
-- 1.3.6.1.4.1.16213.2.15.1.7.1.203
xfsBCRCapabilitiesSymbolologies4 OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Specifies support for the barcode symbolologies in the following table.

        Hex Value   XFS Literal Name           XFS Literal Value
        0x0001     WFS_BCR_SYM_AZTEC          (49)
        0x0002     WFS_BCR_SYM_UKPOST         (50)
        0x0004     WFS_BCR_SYM_PLANET         (51)
        0x0008     WFS_BCR_SYM_POSTNET        (52)
        0x0010     WFS_BCR_SYM_CANADIANPOST   (53)
        0x0020     WFS_BCR_SYM_NETHERLANDSPOST (54)
        0x0040     WFS_BCR_SYM_AUSTRALIANPOST (55)
        0x0080     WFS_BCR_SYM_JAPANESEPOST   (56)
        0x0100     WFS_BCR_SYM_CHINESEPOST    (57)
        0x0200     WFS_BCR_SYM_KOREANPOST     (58)
        "
    ::= { xfsBCRCapabilitiesEntry 203 }

-- 1.3.6.1.4.1.16213.3.0
-- 1.3.6.1.4.1.16213.3.0
xfsTrapV2 OBJECT-IDENTITY
    STATUS current
    DESCRIPTION
        "Root node for the converted TRAP-TYPES."
    ::= { xfsTrap 0 }

-- 1.3.6.1.4.1.16213.3.0.115
-- 1.3.6.1.4.1.16213.3.0.115
xfsBCRDetailedDSCTrap NOTIFICATION-TYPE
    OBJECTS { xfsCommonTrapSysName, xfsCommonTrapManagedServiceName,
xfsCommonTrapManagedServiceClass, xfsCommonTrapManagedServiceClassName,
xfsCommonTrapManagedServiceType,
        xfsCommonTrapManagedServiceOid, xfsCommonTrapPhysicalDeviceName,
xfsCommonTrapDeviceVendor, xfsCommonTrapMIBVersion, xfsCommonTrapEvent,
        xfsCommonTrapDate, xfsCommonTrapSPVersion, xfsBCRStatusDevice,
xfsBCRStatusNumberSubDevices, xfsBCRStatusScanner,

```

CWA 15748-46:2011 (E)

```
        xfsBCRStatusGuidanceBarcode, xfsBCRStatusDevicePosition,
xfsBCRStatusPowerSaveRecoveryTime, xfsBCRStatusExtraStatus }
    STATUS current
    DESCRIPTION
        "This trap indicates a change in the status of a managed
        service."
    ::= { xfsTrapV2 115 }

-- 1.3.6.1.4.1.16213.3.0.315
-- 1.3.6.1.4.1.16213.3.0.315
xfsBCRResetDeviceCompleteTrap NOTIFICATION-TYPE
    OBJECTS { xfsCommonTrapResetDeviceResult, xfsCommonTrapManagedServiceName,
xfsCommonTrapManagedServiceClass, xfsCommonTrapManagedServiceClassName,
xfsCommonTrapManagedServiceType,
        xfsCommonTrapManagedServiceOid, xfsCommonTrapPhysicalDeviceName,
xfsCommonTrapDeviceVendor, xfsCommonTrapMIBVersion, xfsCommonTrapDate,
        xfsCommonTrapSPVersion, xfsBCRStatusDevice, xfsBCRStatusNumberSubDevices,
xfsBCRStatusScanner, xfsBCRStatusGuidanceBarcode,
        xfsBCRStatusDevicePosition, xfsBCRStatusPowerSaveRecoveryTime,
xfsBCRStatusExtraStatus }
    STATUS current
    DESCRIPTION
        "This trap indicates the Reset action has complete and reports the
        state of the device after the reset."
    ::= { xfsTrapV2 315 }

END

--
-- SMIV2_xfsBCR.mib
--
```

5. Appendix B - C-Header files

5.1 XFSMIBBCR.H

```

/*****
*
* xfsmibbcr.h          CEN/XFS - MIB BCR
*
*          Version 3.10  --  Dec 14, 2010
*
*****/

#ifndef __inc_xfsmibbcr_h
#define __inc_xfsmibbcr_h

#ifdef __cplusplus
extern "C" {
#endif

enum IxfsBCRScannerStatus
{
    xfsBCRScannerOn      = 1,
    xfsBCRScannerOff,
    xfsBCRScannerInop,
    xfsBCRScannerUnknown
} xfsBCRScannerStatus;

enum IxfsBCRDevicePositionStatus
{
    xfsBCRDeviceInPosition      = 1,
    xfsBCRDeviceNotInPosition,
    xfsBCRDevicePosUnknown,
    xfsBCRDevicePosNotSupported
} xfsBCRDevicePositionStatus;

/*****
*
* MIB Variables for the Status Table
*
*****/
#define xfsBCRStatusManagedServiceName      (1)
#define xfsBCRStatusNumberSubDevices        (2)
#define xfsBCRStatusDevice                  (3)
#define xfsBCRStatusScanner                 (4)
#define xfsBCRStatusGuidanceBarcode         (5)
#define xfsBCRStatusDevicePosition          (6)
#define xfsBCRStatusPowerSaveRecoveryTime   (7)
#define xfsBCRStatusExtraStatus             (100)

/*****
*
* MIB Variables for the Error Table
*
*****/
//Command codes and error codes correspond to the Service Provider definitions.

/*****
*
* MIB Variables for the Capabilities Table
*
*****/
#define xfsBCRCapabilitiesManagedServiceName      (1)
#define xfsBCRCapabilitiesCompoundDevice          (2)
#define xfsBCRCapabilitiesFilterSymbologies       (3)
#define xfsBCRCapabilitiesGuidanceBarcode         (4)
#define xfsBCRCapabilitiesPowerSaveControl        (5)
#define xfsBCRCapabilitiesExtraCapability          (100)
#define xfsBCRCapabilitiesSymbologies1            (200)

```

CWA 15748-46:2011 (E)

```
#define xfsBCRCapabilitiesSymbologies2 (201)
#define xfsBCRCapabilitiesSymbologies3 (202)
#define xfsBCRCapabilitiesSymbologies4 (203)
```

```
#ifdef __cplusplus
} /*extern "C"*/
#endif
```

```
#endif /* __inc_xfsmibbcr__h */
```