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AGREEMENT

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**Extensions for Financial Services (XFS) interface specification –
Release 3.30 – Part 38: XFS MIB Device Specific Definitions –
Camera Device Class MIB 3.30**

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.

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Foreword

This CWA is revision 3.30 of the XFS interface specification.

This CEN Workshop Agreement has been drafted and approved by a Workshop of representatives of interested parties on March 19th 2015, 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 3.30.

A list of the individuals and organizations which supported the technical consensus represented by the CEN Workshop Agreement is available from the CEN/XFS Secretariat. The CEN 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 Device 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 - Programmer's Reference

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

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

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

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

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

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

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

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

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

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

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

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

Part 42: Reserved for future use.

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

Part 44: XFS MIB Application Management

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

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

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

Parts 48 - 60 are reserved for future use.

Part 61: Application Programming Interface (API) - Migration from Version 3.20 (CWA 16374) to Version 3.30 (this CWA) - Service Provider Interface (SPI) - Programmer's Reference

Part 62: Printer and Scanning Device Class Interface - Migration from Version 3.20 (CWA 16374) to Version 3.30 (this CWA) - Programmer's Reference

Part 63: Identification Card Device Class Interface - Migration from Version 3.20 (CWA 16374) to Version 3.30 (this CWA) - Programmer's Reference

Part 64: Cash Dispenser Device Class Interface - Migration from Version 3.20 (CWA 16374) to Version 3.30 (this CWA) - Programmer's Reference

Part 65: PIN Keypad Device Class Interface - Migration from Version 3.20 (CWA 16374) to Version 3.30 (this CWA) - Programmer's Reference

Part 66: Check Reader/Scanner Device Class Interface - Migration from Version 3.20 (CWA 16374) to Version 3.30 (this CWA) - Programmer's Reference

Part 67: Depository Device Class Interface - Migration from Version 3.20 (CWA 16374) to Version 3.30 (this CWA) - Programmer's Reference

Part 68: Text Terminal Unit Device Class Interface - Migration from Version 3.20 (CWA 16374) to Version 3.30 (this CWA) - Programmer's Reference

Part 69: Sensors and Indicators Unit Device Class Interface - Migration from Version 3.20 (CWA 16374) to Version 3.30 (this CWA) - Programmer's Reference

Part 70: Vendor Dependent Mode Device Class Interface - Migration from Version 3.20 (CWA 16374) to Version 3.30 (this CWA) - Programmer's Reference

Part 71: Camera Device Class Interface - Migration from Version 3.20 (CWA 16374) to Version 3.30 (this CWA) - Programmer's Reference

Part 72: Alarm Device Class Interface - Migration from Version 3.20 (CWA 16374) to Version 3.30 (this CWA) - Programmer's Reference

Part 73: Card Embossing Unit Device Class Interface - Migration from Version 3.20 (CWA 16374) to Version 3.30 (this CWA) - Programmer's Reference

Part 74: Cash-In Module Device Class Interface - Migration from Version 3.20 (CWA 16374) to Version 3.30 (this CWA) - Programmer's Reference

Part 75: Card Dispenser Device Class Interface - Migration from Version 3.20 (CWA 16374) to Version 3.30 (this CWA) - Programmer's Reference

Part 76: Barcode Reader Device Class Interface - Migration from Version 3.20 (CWA 16374) to Version 3.30 (this CWA) - Programmer's Reference

Part 77: Item Processing Module Device Class Interface - Migration from Version 3.20 (CWA 16374) to Version 3.30 (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/work/areas/ict/ebusiness/pages/ws-xfs.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 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 2015-01-16 and was successfully closed on 2015-03-19. The final text of this CWA was submitted to CEN for publication on 2015-06-19. The specification is continuously reviewed and commented in the CEN 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 3.30.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey 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:

1.0	January 20, 2004	Initial release of XFS MIB specification.
1.10	April 15, 2007	Update of the MIB to add support for a Detailed Status Trap, a Device Reset capability and the support of SMIV2.
3.10	December 14, 2010	Update of the MIB to add support for a Capabilities table and to align the MIB with XFS 3.10.
3.20	March 28, 2014	Update release to align the MIB with XFS 3.20.
3.30	February 6, 2017	Update release to align the MIB with XFS 3.30.

1. Introduction

This document provides the device specific MIB definition (Management Information Base) variables for the xfsCAM 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 xfsCAM version one sub-tree is identified by:

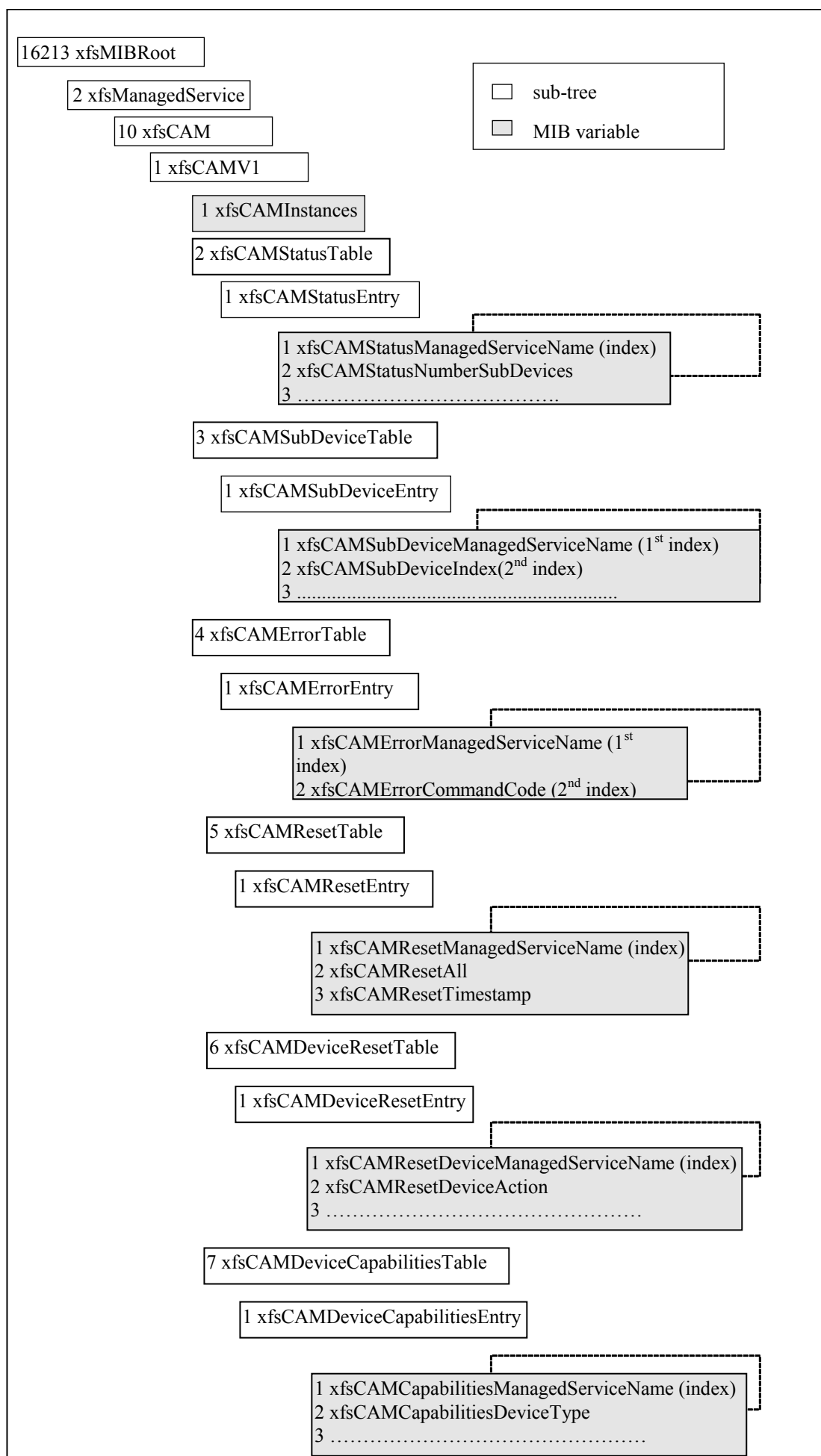
xfsMIBRoot

- xfsManagedService (2)
 - xfsCAM (10)
 - xfsCAMV1 (1)

The xfsCAMV1 sub-tree contains the following variables:

- * *xfsCAMInstances(1)* is the number of managed services for the CAM class installed on the XFS subsystem. It is a 32 bit numerical field.
- * *xfsCAMStatusTable(2)* identifies the table for the CAM variables.
- * *xfsCAMSubDeviceTable(3)* not applicable to the CAM device.
- * *xfsCAMErrorTable(4)* identifies the table for the CAM error counters.
- * *xfsCAMResetTable(5)* identifies the table for the CAM reset variable.
- * *xfsCAMResetDeviceTable(6)* identifies the table for the CAM reset device variables.
- * *xfsCAMCapabilitiesTable(7)* identifies the table for the CAM 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 *xfsCAMV1* sub-tree.



Section 2 describes how the Status, Sub-Device, Error, Reset, Reset Device and Capabilities tables apply to the CAM device class.

2. XFS CAM MIB variables

This section describes the MIB variables for the tables of the CAM Class. The description of the variables listed below includes, where it is meaningful, a reference to relevant data structures and commands defined inside the *Camera 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_CAM_RESET command to be executed from the management station.

2.1 XFS CAM Status Table

The *xfscAMStatusTable(2)* groups the variables identifying device status information, statistics and additional variables. It is indexed through a single parameter, *xfscAMStatusManagedServiceName*. 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.

xfscAMStatusManagedServiceName is the instance identifier of the managed service and uniquely identifies one instance of the CAM class.

As an example, the identifier for the device status value of *xfscAMStatusDevice(3)* for a device with managed service name equal to "Camera1" is as follows:

Character	C	a	m	e	r	a	1
ASCII Hex	43	61	6D	65	72	61	31
ASCII Dec	67	97	109	101	114	97	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:

xfscMIBRoot.2.10.1.2.1.3.7.67.97.109.101.114.97.49

2.1.1 xfscAMStatusTable: States

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

xfscAMStatusManagedServiceName (1)
Uniquely identifies the managed service

xfscAMStatusNumberSubDevices (2)
Defines how many sub-devices the service has. This is always 0 (zero) in the CAM.

xfscAMStatusDevice (3)
It contains the device state. It is a numeric type field. Allowed values are:

Value	Meaning
<i>xfscDevOnline</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>xfscDevOffline</i> (2)	The device is offline (e.g., the operator has taken the device offline by turning a switch).
<i>xfscDevPowerOff</i> (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.
xfsDevHWEror(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_CAM_DEVONLINE) or a permanent error condition has occurred (WFS_CAM_DEVHWEror).
xfsDevBusy(7)	The device is busy and unable to process an execute command at this time.
xfsDevFraudAttempt(8)	The device is present but is inoperable because it has detected a fraud attempt.
xfsDevPotentialFraud (9)	The device has detected a potential fraud attempt and is capable of remaining in service.
xfsCAMStatusMediaRoom (4)	Specifies the state of the recording media of the camera which monitors the whole self-service machine area. It is a numeric type field. Allowed values are:
Value	Meaning
xfsCAMMediaOK(1)	Media is in a good state.
xfsCAMMediaHigh(2)	Media is almost full (threshold).
xfsCAMMediaFull(3)	Media is full.
xfsCAMMediaUnknown(4)	Due to hardware error or other conditions, the state of the media cannot be determined.
xfsCAMMediaNotSupported(5)	The device does not support sensing the media level.
xfsCAMStatusMediaPerson (5)	Specifies the state of the recording media of the camera that monitors the person standing in the front of the self-service machine. It is a numeric type field. Allowed values are the same as variable <i>xfsCAMStatusMediaRoom (4)</i> .
xfsCAMStatusMediaExitSlot (6)	Specifies the state of the recording media of the camera that monitors the exit slot(s) of the self-service machine. It is a numeric type field. Allowed values are the same as variable <i>xfsCAMStatusMediaRoom (4)</i> .
xfsCAMStatusCameraRoom (7)	Specifies the state of the camera that monitors the whole self-service machine area. It is a numeric type field. Allowed values are:
Value	Meaning
xfsCAMCameraNotSupported(1)	The camera is not supported.
xfsCAMCameraOK(2)	The camera is in a good state.
xfsCAMCameraInop(3)	The camera is inoperative.
xfsCAMCameraUnknown(4)	Due to a hardware error or other condition, the state of the camera cannot be determined.
xfsCAMStatusCameraPerson (8)	Specifies the state of the camera that monitors the person standing in front of the self-service machine. It is a numeric type field. Allowed values are the same as variable <i>xfsCAMStatusCameraRoom (7)</i> .
xfsCAMStatusCameraExitSlot (9)	Specifies the state of the camera that monitors the exit slot(s) of the self-service machine. It is a numeric type field. Allowed values are the same as variable <i>xfsCAMStatusCameraRoom (7)</i> .
xfsCAMStatusPicturesRoom (10)	It contains the number of pictures stored on the recording media of the camera that monitors the whole self-service area. It is a numeric type field.

xfsCAMStatusPicturesPerson (11)

It contains the number of pictures stored on the recording media of the camera that monitors the person standing in front of the self-serving machine. It is a numeric type field.

xfsCAMStatusPicturesExitSlot (12)

It contains the number of pictures stored on the recording media of the camera that monitors the exit slot(s) of the self-service machine. It is a numeric type field.

xfsCAMStatusAntiFraudModule (13)

It contains the state of the anti-fraud module as one of the following values:

Value	Meaning
xfsCAMAFMNotSupported (1)	No anti-fraud module is available.
xfsCAMAFMOK (2)	Anti-fraud module is in a good state and no foreign device is detected.
xfsCAMAFMInop (3)	Anti-fraud module is inoperable.
xfsCAMAFMDeviceDetected (4)	Anti-fraud module detected the presence of a foreign device.
xfsCAMAFMUnknown (5)	The state of the anti-fraud module cannot be determined.

xfsCAMStatusExtraStatus (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. An empty list is indicated by two consecutive null characters.

2.2 XFS CAM Sub Device Table

The CAM service class does not support any sub-devices, therefore the *xfsCAMStatusNumberSubDevices* 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 CAM Error Table

The *xfsCAMErrorTable(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

xfsCAMErrorManagedServiceName
xfsCAMErrorCommandCode
xfsCAMErrorResponseCode

The *xfsCAMErrorTable* is defined as:

- *xfsCAMErrorManagedServiceName(1)* which provides the primary index to the service in question. It is Display String field. The *xfsCAMErrorManagedServiceName* parameter corresponds to the value of *xfsMIBRoot.xfsGeneral.xfsMIBV1.xfsManagedServiceTable.xfsManagedServiceEntry.xfsManagedServiceName* in the general table. E.g. "Camera1".
- *xfsCAMErrorCommandCode(2)* is an index which identifies the command code that that response code is related to, e.g. WFS_CMD_CAM_TAKE_PICTURE (1001). It is a 32 bit numerical field.
- *xfsCAMErrorResponseCode(3)* is an index which identifies the response code that the count is required for. It is the absolute value of the error code e.g. WFS_ERR_CAM_CAMINOP (-1002) is represented by 1002. It is a 32 bit numerical field.
- *xfsCAMErrorCount(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_CAM_CAMINOP (-1002) error returned from the WFS_CMD_CAM_TAKE_PICTURE (1001) command for a device with managed service name equal to "Camera1" is as follows:

xfsMIBRoot.2.10.1.4.1.4.7.67.97.109.101.114.97.49.1001.1002.

2.4 XFS CAM Reset Table

The *xfsCAMResetTable(5)* contains the *xfsCAMResetAll* and *xfsCAMResetTimestamp* variables and is indexed by the single variable, *xfsCAMResetManagedServiceName*. When the *xfsCAMResetAll* 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 *xfsCAMResetTable* is defined as:

- *xfsCAMResetManagedServiceName(1)* which provides the primary index to the service in question. It is Display String field. The *xfsCAMResetManagedServiceName* parameter corresponds to the value of *xfsMIBRoot.xfsGeneral.xfsMIBV1.xfsManagedServiceTable.xfsManagedServiceEntry.xfsManagedServiceName* in the general table. E.g. "Camera1".
- *xfsCAMResetAll(2)* is a read-write variable. Issue of a Set command on the *xfsCAMResetAll* 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 *xfsCAMResetAll* variable will return 0 (zero).
- *xfsCAMResetTimestamp(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 "Camera1" by setting the value zero in the *xfsCAMResetAll* variable represented by:

xfsMIBRoot.2.10.1.5.1.2.7.67.97.109.101.114.97.49

2.5 XFS CAM Reset Device Table

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

The *xfsCAMResetDeviceAction* 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_CAM_RESET command will be issued.
4. Exclusive access to the device will be relinquished when the WFS_CMD_CAM_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 *xfsCAMResetDeviceCompleteTrap* trap will be generated to report the result of the Device Reset request.

The *xfsCAMResetDeviceTable* is defined as:

- *xfsCAMResetDeviceManagedServiceName(1)* which provides the index to the service in question. It is a Display String field. The *xfsCAMResetDeviceManagedServiceName* parameter corresponds to the value of

*xfS*MIBRoot.*xfS*General.*xfS*MIBV1.*xfS*ManagedServiceTable.*xfS*ManagedServiceEntry.*xfS*ManagedServiceName in the general table. E.g. “Camera1”.

- *xfS*CAMResetDeviceAction(2) is a read-write variable. Issue of a Set command on the *xfS*CAMResetDeviceAction variable with value *executeReset(1)* will result in the device being reset as described above.
- *xfS*CAMResetDeviceMediaControl(3) is a read-only variable. As there is no media in the CAM device class this variable can only report the *mediaDefault* value.
- *xfS*CAMResetDeviceStatus(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 “Camera1” is reset by setting the *xfS*CAMResetDeviceAction variable represented by:

*xfS*MIBRoot.2.10.1.6.1.2.7.67.97.109.101.114.97.49

2.6 XFS CAM Capabilities Table

The *xfS*CAMCapabilitiesTable(7) groups the variables identifying device capabilities information variables. It is indexed through a single parameter, *xfS*CAMCapabilitiesManagedServiceName. 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.

*xfS*CAMCapabilitiesManagedServiceName is the instance identifier of the managed service and uniquely identifies one instance of the CAM class.

As an example, the identifier for the device status value of *xfS*CAMCapabilitiesDeviceType(2) for a device with managed service name equal to “Camera1” is as follows:

Character	C	a	m	e	r	a	1
ASCII Hex	43	61	6D	65	72	61	31
ASCII Dec	67	97	109	101	114	97	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:

*xfS*MIBRoot.2.10.1.7.1.2.7.67.97.109.101.114.97.49

2.6.1 xfsCAMCapabilitiesTable: Capabilities

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

*xfS*CAMCapabilitiesManagedServiceName (1)
Uniquely identifies the managed service.

*xfS*CAMCapabilitiesDeviceType(2)
Specifies the type of the camera device. Only current numeric value is:

Value	Meaning
<i>xfS</i> CAMTypeCam(2)	Camera system.

*xfS*CAMCapabilitiesCamerasRoom(3)
Specifies whether the camera that monitors the whole self-service area is available. Specified as one of the following as an integer value:

Value	Meaning
<i>xfS</i> CAMNotAvailable (1)	This camera is not available.
<i>xfS</i> CAMAvailable (2)	This camera is available.

xfsCAMCapabilitiesCamerasPerson(4)

Specifies whether the camera that monitors the person standing in front of the self-service machine is available. Allowed values are the same as variable *xfsCAMCapabilitiesCamerasRoom(3)*.

xfsCAMCapabilitiesCamerasExitslot(5)

Specifies whether the camera that monitors the exit slot(s) of the self-service machine is available. Allowed values are the same as variable *xfsCAMCapabilitiesCamerasRoom(3)*.

xfsCAMCapabilitiesMaxPictures(6)

Specifies the maximum number of pictures that can be stored on the recording media as an integer value.

xfsCAMCapabilitiesCamData(7)

Specifies if data can be added to the picture. Specified as a combination of the following flags as an integer value:

Value	XFS Name	Meaning
0x00	WFS_CAM_NOTADD	No data can be added to the picture.
0x01	WFS_CAM_AUTOADD	Data is added automatically to the picture.
0x02	WFS_CAM_MANADD	Data can be added manually to the picture using the field <i>lpszCamData</i> in the WFS_CMD_CAM_TAKE_PICTURE command.

xfsCAMCapabilitiesMaxDataLength(8)

Specifies the maximum length of the data that is displayed on the photo as an integer value. Zero, if data cannot be manually added to the picture.

xfsCAMCapabilitiesCharSupport(9)

One or more flags specifying the Character Set supported by the Service Provider as a combination of the following integer values:

Value	XFS Name	Meaning
0x0001	WFS_CAM_ASCII	ASCII is supported for execute command data values.
0x0002	WFS_CAM_UNICODE	UNICODE is supported for execute command data values.

xfsCAMCapabilitiesPictureFile(10)

Specifies whether the WFS_CMD_CAM_TAKE_PICTURE_EX command, which enables applications to specify the file path and name of a picture to be taken, is supported in a TruthValue variable as follows:

Value	Meaning
True(1)	The device supports the WFS_CMD_CAM_TAKE_PICTURE_EX command.
False(2)	The device does not support the WFS_CMD_CAM_TAKE_PICTURE_EX command.

xfsCAMCapabilitiesAntiFraudModule (11)

Specifies whether the anti-fraud module is available or not in a TruthValue variable as follows:

Value	Meaning
True(1)	The device has an anti-fraud module.
False(2)	The device does not have an anti-fraud module.

xfsCAMCapabilitiesSynchronizableCommands (12)

This holds the list of execute command IDs that can be synchronized. It is an OCTET STRING with each command ID separated by a NULL terminator, while the field itself is terminated by a double NULL terminator. For example, for a device that can synchronize more than one command ID, this value will be as follows where <null> is null terminator:

commandID₁<null>commandID₂<null>.....commandID_n<null><null>

If there are no command IDs that can be synchronized then the value is as follows where <null> is null terminator:

<null><null>

Possible values for each command ID are:

Value	XFS Name	Meaning
1001	WFS_CMD_CAM_TAKE_PICTURE	The WFS_CMD_CAM_TAKE_PICTURE command can be synchronized.
1002	WFS_CMD_CAM_RESET	The WFS_CMD_CAM_RESET command can be synchronized.
1003	WFS_CMD_CAM_TAKE_PICTURE_EX	The WFS_CMD_CAM_TAKE_PICTURE_EX command can be synchronized.

xfsCAMCapabilitiesExtraCapability(100)

It 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.

3. CAM Traps

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

3.1 CAM 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 CAM 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 CAM reflect the CAM Status Table as defined in section 3.1.

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_CAM_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 110 defines the trap as a CAM 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 CAM Detailed Device Status Change Trap Format

The following defines the variable bindings included in the CAM 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 corresponds to the type identifier as defined in the WFS_INF_CAM_CAPABILITIES.*fwType* field.

`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 CAM MIB class is represented by .1.3.6.1.4.1.16213.2.10

`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.

xfMIBRoot.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.

xfMIBRoot.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.

xfMIBRoot.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.

xfMIBRoot.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.

xfMIBRoot.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.

xfMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusDevice.xfsCAMStatusManagedServiceName (13)

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

xfMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusNumberSubDevices.xfsCAMStatusManagedServiceName (14)

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

xfMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusMediaRoom.xfsCAMStatusManagedServiceName (15)

Specifies the state of the recording media of the camera that monitors the whole self-service area. It is a numeric type field.

xfMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusMediaPerson.xfsCAMStatusManagedServiceName (16)

Specifies the state of the recording media of the camera that monitors the person standing in front of the self-service machine. It is a numeric type field.

xfMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusMediaExitSlot.xfsCAMStatusManagedServiceName (17)

Specifies the state of the recording media of the camera that monitors the exit slot(s) of the self-service machine. It is a numeric type field.

xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.**xfsCAMStatusCameraRoom**.xfsCAMStatusManagedServiceName (18)

Specifies the state of the camera that monitors the whole self-service area. It is a numeric type field.

xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.**xfsCAMStatusCameraPerson**.xfsCAMStatusManagedServiceName (19)

Specifies the state of the camera that monitors the person standing in front of the self-service machine. It is a numeric type field.

xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.**xfsCAMStatusCameraExitSlot**.xfsCAMStatusManagedServiceName (20)

Specifies the state of the camera that monitors the exit slot(s) of the self-service machine. It is a numeric type field.

xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.**xfsCAMStatusPicturesRoom**.xfsCAMStatusManagedServiceName (21)

Specifies the number of pictures stored on the recording media of the camera that monitors the whole self-service area. It is a numeric type field.

xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.**xfsCAMStatusPicturesPerson**.xfsCAMStatusManagedServiceName (22)

Specifies the number of pictures stored on the recording media of the camera that monitors the person standing in front of the self-service machine. It is a numeric type field.

xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.**xfsCAMStatusPicturesExitSlot**.xfsCAMStatusManagedServiceName (23)

Specifies the number of pictures stored on the recording media of the camera that monitors the exit slot(s) of the self-service machine. It is a numeric type field.

xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.**xfsCAMStatusExtraStatus**.xfsCAMStatusManagedServiceName (24)

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.

xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.**xfsCAMStatusAntiFraudModule**.xfsCAMStatusManagedServiceName (25)

Specifies the state of the anti-fraud module. It is a numeric type field.

3.1.2 CAM Detailed Device Status Change Trap: an example

As an example, the following variable binding list represents a detailed device status change trap (6, 110) that is generated for a CAM with a managed service name of "Camera1". It reports that the device is in HARDWARE ERROR and the status of all the cameras is unknown.

xfsMIBRoot.3.1.3.1	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapSysName)
	"SST System 1"
xfsMIBRoot.3.1.3.2	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceName)
	"Camera1"
xfsMIBRoot.3.1.3.3	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceClass)
	10 (WFS_SERVICE_CLASS_CAM)
xfsMIBRoot.3.1.3.4	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceClassName)
	"CAM"

xfsMIBRoot.3.1.3.5	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceType)
	1 (WFS_CAM_TYPE_CAM)
xfsMIBRoot.3.1.3.6	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceOid)
	“.1.3.6.1.4.1.16213.2.10”
xfsMIBRoot.3.1.3.7	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapPhysicalDeviceName)
	“Triple Camera”
xfsMIBRoot.3.1.3.8	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapDeviceVendor)
	“DigiCameras Incorporated”
xfsMIBRoot.3.1.3.9	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapMIBVersion)
	“1.10”
xfsMIBRoot.3.1.3.10	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapEvent)
	4 (WFS_SYSE_DEVICE_STATUS)
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.2.10.1.2.1.3.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusDevice.xfsCAMStatusManagedServiceName)
	5 (WFS_STAT_HWERROR)
xfsMIBRoot.2.10.1.2.1.2.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusNumberSubDevices.xfsCAMStatusManagedServiceName)
	0 (No sub device)
xfsMIBRoot.2.10.1.2.1.4.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusMediaRoom.xfsCAMStatusManagedServiceName)
	4 (xfsCAMMediaUnknown)
xfsMIBRoot.2.10.1.2.1.5.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusMediaPerson.xfsCAMStatusManagedServiceName)
	4 (xfsCAMMediaUnknown)
xfsMIBRoot.2.10.1.2.1.6.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusMediaExitSlot.xfsCAMStatusManagedServiceName)
	4 (xfsCAMMediaUnknown)
xfsMIBRoot.2.10.1.2.1.7.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusCameraRoom.xfsCAMStatusManagedServiceName)
	4 (xfsCAMCameraUnknown)
xfsMIBRoot.2.10.1.2.1.8.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusCameraPerson.xfsCAMStatusManagedServiceName)
	4 (xfsCAMCameraUnknown)
xfsMIBRoot.2.10.1.2.1.9.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusCameraExitSlot.xfsCAMStatusManagedServiceName)
	4 (xfsCAMCameraUnknown)
xfsMIBRoot.2.10.1.2.1.10.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusPicturesRoom.xfsCAMStatusManagedServiceName)
	4
xfsMIBRoot.2.10.1.2.	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusE

1.11.Index	ntry.xfsCAMStatusPicturesPerson.xfsCAMStatusManagedServiceName)
	3
xfsMIBRoot.2.10.1.2.1.12.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusPicturesExitSlot.xfsCAMStatusManagedServiceName)
	2
xfsMIBRoot.2.10.1.2.1.100.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusExtraStatus.xfsCAMStatusManagedServiceName)
	"0"0" (No extra data)
xfsMIBRoot.2.10.1.2.1.13.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusAntiFraudModule.xfsCAMStatusManagedServiceName)
	2 (xfsCAMAFMOK)

3.2 CAM Sub-Device Status Change Trap

The CAM does not currently support any sub-devices so the CAM Sub-Device Status Change Trap is not currently defined. The SNMP Specific trap value 210 is reserved in case a sub-device is ever added to the CAM device class.

3.3 CAM Reset Device Complete Trap

On the CAM 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 310 defines the trap as a CAM Reset Device Complete trap.

3.3.1 CAM Reset Device Complete Trap Format

The following defines the variable bindings included in the CAM 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 **xfsCAMStatusDevice** 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 corresponds to the type identifier as defined in the WFS_INF_CAM_CAPABILITIES.fwType field.

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

This variable binding represents the OID of the sub-tree within *xfManagedService* 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 CAM MIB class is represented by .1.3.6.1.4.1.16213.2.10

xfMIBRoot.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.

xfMIBRoot.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.

xfMIBRoot.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.

xfMIBRoot.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.

xfMIBRoot.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.

xfMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusDevice.xfsCAMStatusManagedServiceName (12)

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

xfMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusNumberSubDevices.xfsCAMStatusManagedServiceName (13)

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

xfMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusMediaRoom.xfsCAMStatusManagedServiceName (14)

Specifies the state of the recording media of the camera that monitors the whole self-service area. It is a numeric type field.

xfMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusMediaPerson.xfsCAMStatusManagedServiceName (15)

Specifies the state of the recording media of the camera that monitors the person standing in front of the self-service machine. It is a numeric type field.

xfMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusMediaExitSlot.xfsCAMStatusManagedServiceName (16)

Specifies the state of the recording media of the camera that monitors the exit slot(s) of the self-service machine. It is a numeric type field.

xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusCameraRoom.xfsCAMStatusManagedServiceName (17)

Specifies the state of the camera that monitors the whole self-service area. It is a numeric type field.

xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusCameraPerson.xfsCAMStatusManagedServiceName (18)

Specifies the state of the camera that monitors the person standing in front of the self-service machine. It is a numeric type field.

xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusCameraExitSlot.xfsCAMStatusManagedServiceName (19)

Specifies the state of the camera that monitors the exit slot(s) of the self-service machine. It is a numeric type field.

xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusPicturesRoom.xfsCAMStatusManagedServiceName (20)

Specifies the number of pictures stored on the recording media of the camera that monitors the whole self-service area. It is a numeric type field.

xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusPicturesPerson.xfsCAMStatusManagedServiceName (21)

Specifies the number of pictures stored on the recording media of the camera that monitors the person standing in front of the self-service machine. It is a numeric type field.

xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusPicturesExitSlot.xfsCAMStatusManagedServiceName (22)

Specifies the number of pictures stored on the recording media of the camera that monitors the exit slot(s) of the self-service machine. It is a numeric type field.

xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusExtraStatus.xfsCAMStatusManagedServiceName (23)

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.

xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusAntiFraudModule.xfsCAMStatusManagedServiceName (24)

Specifies the state of the anti-fraud module. It is a numeric type field.

3.3.2 CAM Reset Device Complete: an example

As an example, the following variable binding list represents a Reset Device Complete trap (6, 310) 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 "Camera1".

xfsMIBRoot.3.1.3.13	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapResetDeviceResu lt)
	0 (resetExecuted)
xfsMIBRoot.3.1.3.2	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceNa me)
	"Camera1"
xfsMIBRoot.3.1.3.3	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceCla ss)
	10 (WFS_SERVICE_CLASS_CAM)
xfsMIBRoot.3.1.3.4	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceCla ssName)
	"CAM"
xfsMIBRoot.3.1.3.5	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceTyp e)
	1 (WFS_CAM_TYPE_CAM)

xfsMIBRoot.3.1.3.6	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapManagedServiceOid)
	“.1.3.6.1.4.1.16213.2.10”
xfsMIBRoot.3.1.3.7	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapPhysicalDeviceName)
	“Triple Camera”
xfsMIBRoot.3.1.3.8	(xfsMIBRoot.xfsTrap.xfsTrapV1.xfsCommonTrapVars.xfsCommonTrapDeviceVendor)
	“DigiCameras Incorporated”
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.2.10.1.2.1.3.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusDevice.xfsCAMStatusManagedServiceName)
	1 (WFS_STAT_ONLINE)
xfsMIBRoot.2.10.1.2.1.2.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusNumberSubDevices.xfsCAMStatusManagedServiceName)
	0 (No sub device)
xfsMIBRoot.2.10.1.2.1.4.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusMediaRoom.xfsCAMStatusManagedServiceName)
	1 (xfsCAMMediaOK)
xfsMIBRoot.2.10.1.2.1.5.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusMediaPerson.xfsCAMStatusManagedServiceName)
	1 (xfsCAMMediaOK)
xfsMIBRoot.2.10.1.2.1.6.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusMediaExitSlot.xfsCAMStatusManagedServiceName)
	1 (xfsCAMMediaOK)
xfsMIBRoot.2.10.1.2.1.7.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusCameraRoom.xfsCAMStatusManagedServiceName)
	2 (xfsCAMCameraOK)
xfsMIBRoot.2.10.1.2.1.8.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusCameraPerson.xfsCAMStatusManagedServiceName)
	2 (xfsCAMCameraOK)
xfsMIBRoot.2.10.1.2.1.9.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusCameraExitSlot.xfsCAMStatusManagedServiceName)
	2 (xfsCAMCameraOK)
xfsMIBRoot.2.10.1.2.1.10.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusPicturesRoom.xfsCAMStatusManagedServiceName)
	4
xfsMIBRoot.2.10.1.2.1.11.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusPicturesPerson.xfsCAMStatusManagedServiceName)
	3
xfsMIBRoot.2.10.1.2.1.12.Index	(xfsMIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusPicturesExitSlot.xfsCAMStatusManagedServiceName)
	2

xfsmIBRoot.2.10.1.2.1.100.Index	(xfsmIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusExtraStatus.xfsCAMStatusManagedServiceName)
	"0"\0' (No extra data)
xfsmIBRoot.2.10.1.2.1.13.Index	(xfsmIBRoot.xfsManagedService.xfsCAM.xfsCAMV1.xfsCAMStatusTable.xfsCAMStatusEntry.xfsCAMStatusAntiFraudModule.xfsCAMStatusManagedServiceName)
	2 (xfsCAMAFMOK)

4. Appendix A - CAM MIB sub-tree

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

4.1 CAM MIB in SMIv2 and SMIv1 format



SMIv2_xfsCAM.mib



SMIv1_xfsCAM.mib

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

```
-- *****
-- XFS 3.30 MIB for CAM
-- Management Information Base for XFS CAM Device
--
-- The CAM Number is 10
-- The ASN.1 prefix to, and including the CAM is: 1.3.6.1.4.1.16213.2.10
--
-- *****

XFS-CAM-MIB DEFINITIONS ::= BEGIN

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

--
-- Type definitions
--

-- Type definitions
--
-- *****
-- CAM #defines
-- *****
IxfsCAMMediaStatus ::= INTEGER
{
    xfsCAMMediaOK(1),
    xfsCAMMediaHigh(2),
    xfsCAMMediaFull(3),
    xfsCAMMediaUnknown(4),
    xfsCAMMediaNotSupported(5)
}

IxfsCAMCameraStatus ::= INTEGER
{
    xfsCAMCameraNotSupported(1),
    xfsCAMCameraOK(2),
    xfsCAMCameraInop(3),
    xfsCAMCameraUnknown(4)
}

IxfsCAMAntiFraudModuleStatus ::= INTEGER
{
    xfsCAMAFMNotSupported(1),
    xfsCAMAFMOK(2),
    xfsCAMAFMInop(3),
    xfsCAMAFMDeviceDetected(4),
    xfsCAMAFMUnknown(5)
}
```

```

IxfsCAMCapabilitiesDeviceType ::= INTEGER { xfsCAMTypeCam(2) }

IxfsCAMCapabilitiesCameraAvailability ::= INTEGER
{
    xfsCAMNotAvailable(1),
    xfsCAMAvailable(2)
}

--
-- Node definitions
--

-- Node definitions
--
-- *****
-- Version 1 of CAM MIB
--
-- The ASN.1 prefix to, and including the Version 1 of CAM is:
-- 1.3.6.1.4.1.16213.2.10.1
--
-- *****
-- 1.3.6.1.4.1.16213.2.10.1
xfsCAMV1 OBJECT IDENTIFIER ::= { xfsCAM 1 }

-- 1.3.6.1.4.1.16213.2.10.1.1
xfsCAMInstances OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Number that represents the number of CAM managed services."
    ::= { xfsCAMV1 1 }

-- *****
-- CAM Device Status Table
-- *****
-- 1.3.6.1.4.1.16213.2.10.1.2
xfsCAMStatusTable OBJECT-TYPE
    SYNTAX SEQUENCE OF XfsCAMStatusEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "Define the set of MIB Variables for the CAM status table."
    ::= { xfsCAMV1 2 }

-- 1.3.6.1.4.1.16213.2.10.1.2.1
xfsCAMStatusEntry OBJECT-TYPE
    SYNTAX XfsCAMStatusEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "CAM Device Status Table Entry."
    INDEX { xfsCAMStatusManagedServiceName }
    ::= { xfsCAMStatusTable 1 }

XfsCAMStatusEntry ::=
    SEQUENCE {
        xfsCAMStatusManagedServiceName
            DisplayString,
        xfsCAMStatusNumberSubDevices
            Integer32,
        xfsCAMStatusDevice
            IxfsMIBDeviceStatus,
        xfsCAMStatusMediaRoom
            IxfsCAMMediaStatus,

```

```

    xfsCAMStatusMediaPerson
        IxfsCAMMediaStatus,
    xfsCAMStatusMediaExitSlot
        IxfsCAMMediaStatus,
    xfsCAMStatusCameraRoom
        IxfsCAMCameraStatus,
    xfsCAMStatusCameraPerson
        IxfsCAMCameraStatus,
    xfsCAMStatusCameraExitSlot
        IxfsCAMCameraStatus,
    xfsCAMStatusPicturesRoom
        Integer32,
    xfsCAMStatusPicturesPerson
        Integer32,
    xfsCAMStatusPicturesExitSlot
        Integer32,
    xfsCAMStatusAntiFraudModule
        IxfsCAMAntiFraudModuleStatus,
    xfsCAMStatusExtraStatus
        OCTET STRING
}

-- 1.3.6.1.4.1.16213.2.10.1.2.1.1
xfsCAMStatusManagedServiceName OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Instance identifier of the managed service."
    ::= { xfsCAMStatusEntry 1 }

-- 1.3.6.1.4.1.16213.2.10.1.2.1.2
xfsCAMStatusNumberSubDevices OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Number of sub devices supported by the CAM device."
    ::= { xfsCAMStatusEntry 2 }

-- 1.3.6.1.4.1.16213.2.10.1.2.1.3
xfsCAMStatusDevice OBJECT-TYPE
    SYNTAX IxfsMIBDeviceStatus
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Device status."
    ::= { xfsCAMStatusEntry 3 }

-- 1.3.6.1.4.1.16213.2.10.1.2.1.4
xfsCAMStatusMediaRoom OBJECT-TYPE
    SYNTAX IxfsCAMMediaStatus
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "State of the recording media of the camera that monitors
        the whole self-service area.
        xfsCAMMediaOK(1),
        xfsCAMMediaHigh(2),
        xfsCAMMediaFull(3),
        xfsCAMMediaUnknown(4),
        xfsCAMMediaNotSupported(5) "
    ::= { xfsCAMStatusEntry 4 }

-- 1.3.6.1.4.1.16213.2.10.1.2.1.5
xfsCAMStatusMediaPerson OBJECT-TYPE
    SYNTAX IxfsCAMMediaStatus

```

```

MAX-ACCESS read-only
STATUS current
DESCRIPTION
    "State of the recording media of the camera that monitors
    the person standing in front of the self-service machine.
    xfsCAMMediaOK(1),
    xfsCAMMediaHigh(2),
    xfsCAMMediaFull(3),
    xfsCAMMediaUnknown(4),
    xfsCAMMediaNotSupported(5) "
::= { xfsCAMStatusEntry 5 }

-- 1.3.6.1.4.1.16213.2.10.1.2.1.6
xfsCAMStatusMediaExitSlot OBJECT-TYPE
    SYNTAX IxfsCAMMediaStatus
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "State of the recording media of the camera that monitors
        the exit-slot(s) of the self-service machine.
        xfsCAMMediaOK(1),
        xfsCAMMediaHigh(2),
        xfsCAMMediaFull(3),
        xfsCAMMediaUnknown(4),
        xfsCAMMediaNotSupported(5) "
    ::= { xfsCAMStatusEntry 6 }

-- 1.3.6.1.4.1.16213.2.10.1.2.1.7
xfsCAMStatusCameraRoom OBJECT-TYPE
    SYNTAX IxfsCAMCameraStatus
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "State of the camera that monitors the whole self-service area.
        xfsCAMCameraNotSupported(1),
        xfsCAMCameraOK(2),
        xfsCAMCameraInop(3),
        xfsCAMCameraUnknown(4) "
    ::= { xfsCAMStatusEntry 7 }

-- 1.3.6.1.4.1.16213.2.10.1.2.1.8
xfsCAMStatusCameraPerson OBJECT-TYPE
    SYNTAX IxfsCAMCameraStatus
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "State of the camera that monitors the person
        standing in front of the self-service machine.
        xfsCAMCameraNotSupported(1),
        xfsCAMCameraOK(2),
        xfsCAMCameraInop(3),
        xfsCAMCameraUnknown(4) "
    ::= { xfsCAMStatusEntry 8 }

-- 1.3.6.1.4.1.16213.2.10.1.2.1.9
xfsCAMStatusCameraExitSlot OBJECT-TYPE
    SYNTAX IxfsCAMCameraStatus
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "State of the camera that monitors the
        exit-slot(s) of the self-service machine.
        xfsCAMCameraNotSupported(1),
        xfsCAMCameraOK(2),
        xfsCAMCameraInop(3),
        xfsCAMCameraUnknown(4) "
    ::= { xfsCAMStatusEntry 9 }

```

```

-- 1.3.6.1.4.1.16213.2.10.1.2.1.10
xfsCAMStatusPicturesRoom OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Number of pictures stored in the recording media of type room."
    ::= { xfsCAMStatusEntry 10 }

-- 1.3.6.1.4.1.16213.2.10.1.2.1.11
xfsCAMStatusPicturesPerson OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Number of pictures stored in the recording media of type person."
    ::= { xfsCAMStatusEntry 11 }

-- 1.3.6.1.4.1.16213.2.10.1.2.1.12
xfsCAMStatusPicturesExitSlot OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Number of pictures stored in the recording media of type exit slot."
    ::= { xfsCAMStatusEntry 12 }

-- 1.3.6.1.4.1.16213.2.10.1.2.1.13
xfsCAMStatusAntiFraudModule OBJECT-TYPE
    SYNTAX IxfsCAMAntiFraudModuleStatus
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "It contains the state of the anti-fraud module. Allowed values are:
        xfsCAMAFMNotSupported(1),
        xfsCAMAFMOK(2),
        xfsCAMAFMInop(3),
        xfsCAMAFMDeviceDetected(4),
        xfsCAMAFMUnknown(5)."
```

```

    ::= { xfsCAMStatusEntry 13 }

-- 1.3.6.1.4.1.16213.2.10.1.2.1.100
xfsCAMStatusExtraStatus OBJECT-TYPE
    SYNTAX OCTET STRING
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Vendor dependent additional device status information."
    ::= { xfsCAMStatusEntry 100 }

-- *****
-- CAM Sub Device Status Table
--
-- Note that the CAM device does not currently have sub-devices. The
-- sub-device table is not required for this device and is shown as an
-- example for those devices that do support sub-devices.
--
-- Note, to ensure consistency across all MIB extensions OID 16213.2.10.1.3
-- must be reserved for the sub-device table.
-- *****
-- 1.3.6.1.4.1.16213.2.10.1.3
xfsCAMSubDeviceTable OBJECT-TYPE
    SYNTAX SEQUENCE OF XfsCAMSubDeviceEntry
    MAX-ACCESS not-accessible

```

```

STATUS current
DESCRIPTION
    "Define the set of MIB Variables for the CAM status table."
::= { xfsCAMV1 3 }

-- 1.3.6.1.4.1.16213.2.10.1.3.1
xfsCAMSubDeviceEntry OBJECT-TYPE
    SYNTAX XfsCAMSubDeviceEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "CAM Sub-Device Status Table Entry."
    INDEX { xfsCAMSubDeviceManagedServiceName, xfsCAMSubDeviceIndex }
    ::= { xfsCAMSubDeviceTable 1 }

XfsCAMSubDeviceEntry ::=
    SEQUENCE {
        xfsCAMSubDeviceManagedServiceName
            DisplayString,
        xfsCAMSubDeviceIndex
            INTEGER
    }

-- As an example if you want to add values to the sub-device table, add
-- entries as shown in the example below.
-- xfsCAMSubDeviceValue INTEGER }
-- 1.3.6.1.4.1.16213.2.10.1.3.1.1
xfsCAMSubDeviceManagedServiceName OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Instance identifier of the managed service."
    ::= { xfsCAMSubDeviceEntry 1 }

-- 1.3.6.1.4.1.16213.2.10.1.3.1.2
xfsCAMSubDeviceIndex OBJECT-TYPE
    SYNTAX INTEGER (1..65535)
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Index into the array of sub devices supported."
    ::= { xfsCAMSubDeviceEntry 2 }

-- As an example if you want to add values to the sub-device table, add
-- entries as shown in the example below.
-- xfsCAMSubDeviceValue OBJECT-TYPE
-- SYNTAX INTEGER
-- ACCESS read-only
-- STATUS mandatory
-- DESCRIPTION "Returns the value of the sub device referenced by the index."
-- ::= {xfsCAMSubDeviceEntry 3}
-- *****
-- CAM Error Table
-- *****
-- 1.3.6.1.4.1.16213.2.10.1.4
xfsCAMErrorTable OBJECT-TYPE
    SYNTAX SEQUENCE OF XfsCAMErrorEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "Define the set of MIB Variables for the CAM Error Table."
    ::= { xfsCAMV1 4 }

-- 1.3.6.1.4.1.16213.2.10.1.4.1
xfsCAMErrorEntry OBJECT-TYPE

```

```

SYNTAX XfsCAMErrorEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
    "CAM Error Table Entry."
INDEX { xfsCAMErrorManagedServiceName, xfsCAMErrorCommandCode,
xfsCAMErrorResponseCode }
 ::= { xfsCAMErrorTable 1 }

XfsCAMErrorEntry ::=
SEQUENCE {
    xfsCAMErrorManagedServiceName
        DisplayString,
    xfsCAMErrorCommandCode
        INTEGER,
    xfsCAMErrorResponseCode
        INTEGER,
    xfsCAMErrorCount
        Integer32
}

-- 1.3.6.1.4.1.16213.2.10.1.4.1.1
xfsCAMErrorManagedServiceName OBJECT-TYPE
SYNTAX DisplayString
MAX-ACCESS read-only
STATUS current
DESCRIPTION
    "Instance identifier of the managed service."
 ::= { xfsCAMErrorEntry 1 }

-- 1.3.6.1.4.1.16213.2.10.1.4.1.2
xfsCAMErrorCommandCode OBJECT-TYPE
SYNTAX INTEGER (1001..1100)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
    "The executable command code supported by the Service
    Provider associated with the error count of interest."
 ::= { xfsCAMErrorEntry 2 }

-- 1.3.6.1.4.1.16213.2.10.1.4.1.3
xfsCAMErrorResponseCode OBJECT-TYPE
SYNTAX INTEGER (0..99 | 1000..1099)
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."
 ::= { xfsCAMErrorEntry 3 }

-- 1.3.6.1.4.1.16213.2.10.1.4.1.4
xfsCAMErrorCount OBJECT-TYPE
SYNTAX Integer32
MAX-ACCESS read-write
STATUS current
DESCRIPTION
    "The counter value corresponding to the managed service,
    command code and response code."
 ::= { xfsCAMErrorEntry 4 }

-- *****
-- CAM Reset Table
-- *****
-- 1.3.6.1.4.1.16213.2.10.1.5
xfsCAMResetTable OBJECT-TYPE

```

```

SYNTAX SEQUENCE OF XfsCAMResetEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
    "Defines the set of MIB Variables for the CAM Reset Table."
 ::= { xfsCAMV1 5 }

-- 1.3.6.1.4.1.16213.2.10.1.5.1
xfsCAMResetEntry OBJECT-TYPE
    SYNTAX XfsCAMResetEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "CAM Reset Table Entry."
    INDEX { xfsCAMResetManagedServiceName }
    ::= { xfsCAMResetTable 1 }

XfsCAMResetEntry ::=
    SEQUENCE {
        xfsCAMResetManagedServiceName
            DisplayString,
        xfsCAMResetAll
            Integer32,
        xfsCAMResetTimestamp
            DisplayString
    }

-- 1.3.6.1.4.1.16213.2.10.1.5.1.1
xfsCAMResetManagedServiceName OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Instance identifier of the managed service."
    ::= { xfsCAMResetEntry 1 }

-- 1.3.6.1.4.1.16213.2.10.1.5.1.2
xfsCAMResetAll 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."
    ::= { xfsCAMResetEntry 2 }

-- 1.3.6.1.4.1.16213.2.10.1.5.1.3
xfsCAMResetTimestamp OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Date and time the last reset of the counters was
         performed."
    ::= { xfsCAMResetEntry 3 }

-- *****
-- CAM Reset Device Table
-- *****
-- 1.3.6.1.4.1.16213.2.10.1.6
xfsCAMResetDeviceTable OBJECT-TYPE
    SYNTAX SEQUENCE OF XfsCAMResetDeviceEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "Define the set of MIB Variables for the CAM Reset Device Table."

```

```

::= { xfsCAMV1 6 }

-- 1.3.6.1.4.1.16213.2.10.1.6.1
xfsCAMResetDeviceEntry OBJECT-TYPE
    SYNTAX XfsCAMResetDeviceEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "CAM Reset Device Table Entry."
    INDEX { xfsCAMResetDeviceManagedServiceName }
    ::= { xfsCAMResetDeviceTable 1 }

XfsCAMResetDeviceEntry ::=
    SEQUENCE {
        xfsCAMResetDeviceManagedServiceName
            DisplayString,
        xfsCAMResetDeviceAction
            INTEGER,
        xfsCAMResetDeviceMediaControl
            INTEGER,
        xfsCAMResetDeviceStatus
            INTEGER
    }

-- 1.3.6.1.4.1.16213.2.10.1.6.1.1
xfsCAMResetDeviceManagedServiceName OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Instance identifier of the managed service."
    ::= { xfsCAMResetDeviceEntry 1 }

-- 1.3.6.1.4.1.16213.2.10.1.6.1.2
xfsCAMResetDeviceAction OBJECT-TYPE
    SYNTAX INTEGER { executeReset(1) }
    MAX-ACCESS read-write
    STATUS current
    DESCRIPTION
        "Variable that initiates the device reset"
    ::= { xfsCAMResetDeviceEntry 2 }

-- 1.3.6.1.4.1.16213.2.10.1.6.1.3
xfsCAMResetDeviceMediaControl OBJECT-TYPE
    SYNTAX INTEGER { mediaDefault(1) }
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Variable that reports the media handling during the device reset"
    ::= { xfsCAMResetDeviceEntry 3 }

-- 1.3.6.1.4.1.16213.2.10.1.6.1.4
xfsCAMResetDeviceStatus OBJECT-TYPE
    SYNTAX INTEGER
        {
            resetIdle(1),
            resetInProgress(2)
        }
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Variable that reports the progress of the device reset"
    ::= { xfsCAMResetDeviceEntry 4 }

-- *****

```

```

-- CAM Device Capabilities Table
-- *****
-- 1.3.6.1.4.1.16213.2.10.1.7
xfsCAMCapabilitiesTable OBJECT-TYPE
    SYNTAX SEQUENCE OF XfsCAMCapabilitiesEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "Define the set of MIB Variables for the CAM capabilities table. "
    ::= { xfsCAMV1 7 }

-- 1.3.6.1.4.1.16213.2.10.1.7.1
xfsCAMCapabilitiesEntry OBJECT-TYPE
    SYNTAX XfsCAMCapabilitiesEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "CAM Device Capabilities Table Entry. "
    INDEX { xfsCAMCapabilitiesManagedServiceName }
    ::= { xfsCAMCapabilitiesTable 1 }

XfsCAMCapabilitiesEntry ::=
    SEQUENCE {
        xfsCAMCapabilitiesManagedServiceName
            DisplayString,
        xfsCAMCapabilitiesDeviceType
            IxfsCAMCapabilitiesDeviceType,
        xfsCAMCapabilitiesCamerasRoom
            IxfsCAMCapabilitiesCameraAvailability,
        xfsCAMCapabilitiesCamerasPerson
            IxfsCAMCapabilitiesCameraAvailability,
        xfsCAMCapabilitiesCamerasExitSlot
            IxfsCAMCapabilitiesCameraAvailability,
        xfsCAMCapabilitiesMaxPictures
            Integer32,
        xfsCAMCapabilitiesCamData
            Integer32,
        xfsCAMCapabilitiesMaxDataLength
            Integer32,
        xfsCAMCapabilitiesCharSupport
            Integer32,
        xfsCAMCapabilitiesPictureFile
            TruthValue,
        xfsCAMCapabilitiesAntiFraudModule
            TruthValue,
        xfsCAMCapabilitiesSynchronizableCommands
            OCTET STRING,
        xfsCAMCapabilitiesExtraCapability
            OCTET STRING
    }

-- 1.3.6.1.4.1.16213.2.10.1.7.1.1
xfsCAMCapabilitiesManagedServiceName OBJECT-TYPE
    SYNTAX DisplayString
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Instance identifier of the managed service. "
    ::= { xfsCAMCapabilitiesEntry 1 }

-- 1.3.6.1.4.1.16213.2.10.1.7.1.2
xfsCAMCapabilitiesDeviceType OBJECT-TYPE
    SYNTAX IxfsCAMCapabilitiesDeviceType
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Type of CAM device."
    ::= { xfsCAMCapabilitiesEntry 2 }

```

```

-- 1.3.6.1.4.1.16213.2.10.1.7.1.3
xfsCAMCapabilitiesCamerasRoom OBJECT-TYPE
    SYNTAX IxfsCAMCapabilitiesCameraAvailability
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Specifies whether the camera that monitors the whole self-service area is
available. "
    ::= { xfsCAMCapabilitiesEntry 3 }

-- 1.3.6.1.4.1.16213.2.10.1.7.1.4
xfsCAMCapabilitiesCamerasPerson OBJECT-TYPE
    SYNTAX IxfsCAMCapabilitiesCameraAvailability
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Specifies whether the camera that monitors the person standing in front of
the self-service machine is available. "
    ::= { xfsCAMCapabilitiesEntry 4 }

-- 1.3.6.1.4.1.16213.2.10.1.7.1.5
xfsCAMCapabilitiesCamerasExitSlot OBJECT-TYPE
    SYNTAX IxfsCAMCapabilitiesCameraAvailability
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Specifies whether the camera that monitors the exit slot(s) of the self-
service machine is available. "
    ::= { xfsCAMCapabilitiesEntry 5 }

-- 1.3.6.1.4.1.16213.2.10.1.7.1.6
xfsCAMCapabilitiesMaxPictures OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Specifies the maximum number of pictures that can be stored on the
recording media. "
    ::= { xfsCAMCapabilitiesEntry 6 }

-- 1.3.6.1.4.1.16213.2.10.1.7.1.7
xfsCAMCapabilitiesCamData OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Specifies, if data can be added to the picture."
    ::= { xfsCAMCapabilitiesEntry 7 }

-- 1.3.6.1.4.1.16213.2.10.1.7.1.8
xfsCAMCapabilitiesMaxDataLength OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Specifies the maximum length of the data that is displayed on the photo.
Zero, if data cannot be manually added to the picture. "
    ::= { xfsCAMCapabilitiesEntry 8 }

-- 1.3.6.1.4.1.16213.2.10.1.7.1.9
xfsCAMCapabilitiesCharSupport OBJECT-TYPE
    SYNTAX Integer32
    MAX-ACCESS read-only

```

```

        STATUS current
        DESCRIPTION
            "One or more flags specifying the Character Set supported by the Service
Provider. "
        ::= { xfsCAMCapabilitiesEntry 9 }

-- 1.3.6.1.4.1.16213.2.10.1.7.1.10
xfsCAMCapabilitiesPictureFile OBJECT-TYPE
    SYNTAX TruthValue
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "This TruthValue variable specifies whether or not the
WFS_CMD_CAM_TAKE_PICTURE_EX command is supported."
    ::= { xfsCAMCapabilitiesEntry 10 }

-- 1.3.6.1.4.1.16213.2.10.1.7.1.11
xfsCAMCapabilitiesAntiFraudModule OBJECT-TYPE
    SYNTAX TruthValue
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "This TruthValue variable specifies whether or not an anti-fraud module is
available."
    ::= { xfsCAMCapabilitiesEntry 11 }

-- 1.3.6.1.4.1.16213.2.10.1.7.1.12
xfsCAMCapabilitiesSynchronizableCommands OBJECT-TYPE
    SYNTAX OCTET STRING
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Specifies which Command IDs can be synchronized."
    ::= { xfsCAMCapabilitiesEntry 12 }

-- 1.3.6.1.4.1.16213.2.10.1.7.1.100
xfsCAMCapabilitiesExtraCapability OBJECT-TYPE
    SYNTAX OCTET STRING
    MAX-ACCESS read-only
    STATUS current
    DESCRIPTION
        "Pointer to a list of vendor-specific, or any other extended, information.
The information is returned as a series of "key=value" strings so that it is easily
extensible by Service Providers.Each string is null-terminated, with the final
string terminating with two null characters. "
    ::= { xfsCAMCapabilitiesEntry 100 }

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

-- *****
-- Trap definitions
-- *****
-- 1.3.6.1.4.1.16213.3.0.110
xfsCAMDetailedDSCTrap NOTIFICATION-TYPE
    OBJECTS { xfsCommonTrapSysName, xfsCommonTrapManagedServiceName,
xfsCommonTrapManagedServiceClass, xfsCommonTrapManagedServiceClassName,
xfsCommonTrapManagedServiceType,
        xfsCommonTrapManagedServiceOid, xfsCommonTrapPhysicalDeviceName,
xfsCommonTrapDeviceVendor, xfsCommonTrapMIBVersion, xfsCommonTrapEvent,
        xfsCommonTrapDate, xfsCommonTrapSPVersion, xfsCAMStatusDevice,
xfsCAMStatusNumberSubDevices, xfsCAMStatusMediaRoom,

```

```

        xfsCAMStatusMediaPerson, xfsCAMStatusMediaExitSlot, xfsCAMStatusCameraRoom,
xfsCAMStatusCameraPerson, xfsCAMStatusCameraExitSlot,
        xfsCAMStatusPicturesRoom, xfsCAMStatusPicturesPerson,
xfsCAMStatusPicturesExitSlot, xfsCAMStatusExtraStatus, xfsCAMStatusAntiFraudModule
    }
    STATUS current
    DESCRIPTION
        "This trap indicates a change in the status of a managed
        service."
    ::= { xfsTrapV2 110 }

-- 1.3.6.1.4.1.16213.3.0.310
xfsCAMResetDeviceCompleteTrap NOTIFICATION-TYPE
    OBJECTS { xfsCommonTrapResetDeviceResult, xfsCommonTrapManagedServiceName,
xfsCommonTrapManagedServiceClass, xfsCommonTrapManagedServiceClassName,
xfsCommonTrapManagedServiceType,
        xfsCommonTrapManagedServiceOid, xfsCommonTrapPhysicalDeviceName,
xfsCommonTrapDeviceVendor, xfsCommonTrapMIBVersion, xfsCommonTrapDate,
        xfsCommonTrapSPVersion, xfsCAMStatusDevice, xfsCAMStatusNumberSubDevices,
xfsCAMStatusMediaRoom, xfsCAMStatusMediaPerson,
        xfsCAMStatusMediaExitSlot, xfsCAMStatusCameraRoom,
xfsCAMStatusCameraPerson, xfsCAMStatusCameraExitSlot, xfsCAMStatusPicturesRoom,
        xfsCAMStatusPicturesPerson, xfsCAMStatusPicturesExitSlot,
xfsCAMStatusExtraStatus, xfsCAMStatusAntiFraudModule }
    STATUS current
    DESCRIPTION
        "This trap indicates the Reset action has complete and reports the
        state of the device after the reset."
    ::= { xfsTrapV2 310 }

END

--
-- SMIV2_XFSCAM.mib
--

```

5. Appendix B - C-Header files

5.1 XFSMIBCAM.H

```

/*****
*
* xfsmibcam.h          CEN/XFS - MIB CAM
*
*          Version 3.30  --  Feb 6, 2017
*
*****/

#ifndef __inc_xfsmibcam__h
#define __inc_xfsmibcam__h

#ifdef __cplusplus
extern "C" {
#endif

enum IxfsCAMMediaStatus
{
    xfsCAMMediaOK                =1,
    xfsCAMMediaHigh,
    xfsCAMMediaFull,
    xfsCAMMediaUnknown,
    xfsCAMMediaNotSupported
} xfsCAMMediaStatus;

enum IxfsCAMCameraStatus
{
    xfsCAMCameraNotSupported    =1,
    xfsCAMCameraOK,
    xfsCAMCameraInop,
    xfsCAMCameraUnknown
} xfsCAMCameraStatus;

enum IxfsCAMAntiFraudModuleStatus
{
    xfsCAMAFMNotSupported      = 1,
    xfsCAMAFMOK,
    xfsCAMAFMInop,
    xfsCAMAFMDeviceDetected,
    xfsCAMAFMUnknown
} xfsCAMAntiFraudModuleStatus;

enum IxfsCAMCapabilitiesDeviceType
{
    xfsCAMTypeCam              =2
} xfsCAMCapabilitiesDeviceType;

enum IxfsCAMCapabilitiesCameraAvailability
{
    xfsCAMNotAvailable         =1,
    xfsCAMAvailable
} xfsCAMCapabilitiesCameraAvailability;

/*****
*
*      MIB Variables for the Status Table
*
*****/
#define xfsCAMStatusManagedServiceName    (1)

```

```

#define xfsCAMStatusNumberSubDevices      (2)
#define xfsCAMStatusDevice                (3)
#define xfsCAMStatusMediaRoom             (4)
#define xfsCAMStatusMediaPerson           (5)
#define xfsCAMStatusMediaExitSlot         (6)
#define xfsCAMStatusCameraRoom            (7)
#define xfsCAMStatusCameraPerson          (8)
#define xfsCAMStatusCameraExitSlot        (9)
#define xfsCAMStatusPicturesRoom          (10)
#define xfsCAMStatusPicturesPerson        (11)
#define xfsCAMStatusPicturesExitSlot      (12)
#define xfsCAMStatusAntiFraudModule        (13)
#define xfsCAMStatusExtraStatus            (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 xfsCAMCapabilitiesManagedServiceName (1)
#define xfsCAMCapabilitiesDeviceType         (2)
#define xfsCAMCapabilitiesCamerasRoom        (3)
#define xfsCAMCapabilitiesCamerasPerson      (4)
#define xfsCAMCapabilitiesCamerasExitSlot    (5)
#define xfsCAMCapabilitiesMaxPictures        (6)
#define xfsCAMCapabilitiesCamData            (7)
#define xfsCAMCapabilitiesMaxDataLength      (8)
#define xfsCAMCapabilitiesCharSupport        (9)
#define xfsCAMCapabilitiesPictureFile        (10)
#define xfsCAMCapabilitiesAntiFraudModule    (11)
#define xfsCAMCapabilitiesSynchronizableCommands (12)
#define xfsCAMCapabilitiesExtraCapability    (100)

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

#endif /* __inc_xfsmibcam__h */

```