

The Marway Chassis MIB

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Abstract

This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in The Internet community.

In particular, it defines managed objects exposing management information about the configuration and status of a Marway chassis entity.

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1. Introduction

This memo defines managed objects exposing management information about the configuration and status of a Marway chassis entity.

2. The Internet-Standard SNMP Management Framework

For a detailed overview of the documents that describe the current Internet-Standard Management Framework, please refer to section 7 of RFC 3410 [RFC3410].

Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. MIB objects are generally accessed through the Simple Network Management Protocol (SNMP).

Objects in the MIB are defined using the mechanisms defined in the Structure of Management Information (SMI). This memo specifies a MIB module that is compliant to the SMIV2, which is described in STD 58, RFC 2578 [RFC2578], STD 58, RFC 2579 [RFC2579] and STD 58, RFC 2580 [RFC2580].

3. Conventions

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119].

4. Overview

This section provides an overview of this MIB module.

Section 4.1 discusses the relationship of this MIB module to other MIB modules.

Section 4.2 presents the organization of this MIB module.

4.1 Relationship to Other MIB Modules

This section discusses the relationship of this MIB module to MIB modules published by the Internet Engineering Task Force (IETF) and to other Marway Enterprise MIB modules.

4.1.1 ENTITY-MIB

The ENTITY-MIB is designed to expose management information about the inventory of components associated with a managed system. These components include Marway chassis entities.

This MIB module defines extensions to the ENTITY-MIB, exposing additional management information about chassis entities within Marway RCM products.

The scalar objects and event notifications defined in this MIB module complement the management information available in the corresponding entPhysicalEntry. The corresponding entPhysicalEntry has an entPhysicalClass value of 'chassis(3)'.

4.2 Organization of This MIB Module

This MIB module defines one textual convention that is described in the following section.

This MIB module organizes its OBJECT-TYPE definitions into two scalar groups. Each scalar group is described in a subsequent section.

There is also one NOTIFICATION-TYPE definition contained in this MIB module. This event notification is described in a subsequent section.

4.2.1 Textual Conventions

This section describes the one textual convention defined in this MIB module.

4.2.1.1 MCLockType

The MCLockType textual convention enumerates the set of possible clock sources available to a Marway chassis.

The value is interpreted as follows:

- `none(1)' - none of the following
- `other(2)' - a source other than one of the following
- `snntp(3)' - the source is Simple Network Time Protocol (SNTP)
- `rtc(4)' - the source is a local real-time clock (RTC)

4.2.1.2 Scalar Groups

This section describes the two scalar groups defined in this MIB module.

4.2.2 mChassisObjects

The mChassisObjects scalar group exposes management information about a Marway chassis. The management information includes:

- the time source in use
- the current local time

The mChassisObjects scalar group also exposes a control object that a management application can use to reboot a Marway chassis.

4.2.3 mChassisEventScalars

The mChassisEventScalars scalar group exposes management information about events observed within a Marway chassis. The management information includes:

- additional details about an event observed within a Marway chassis
- the unique acknowledgement identifier (ACK ID) string associated with an event observed within a Marway chassis

The management information defined within the mChassisEventScalars scalar group is available only within the varbindlist of an event notification. This management information can not be retrieved using SNMP Get or SNMP GetNext operations.

4.2.4 Event Notifications

This section describes the one event notification defined in this MIB module.

4.2.4.1 mChassisEventFirmwareConfigChange

The mChassisEventFirmwareConfigChange event notification provides an indication that the one or more configuration parameters have changed.

The management information provided with this event notification include:

mChassisTime - the date and time this event was observed

mChassisEventDetail - displayable text providing additional detail about this firmware configuration change event

4.2.4.2 mChassisEventUserLogin

The mChassisEventUserLogin event notification provides an indication that a user has logged into the Marway chassis software.

The management information provided with this event notification include:

mChassisTime - the date and time this event was observed

mChassisEventDetail - displayable text providing additional detail about this login event

4.2.4.3 mChassisEventEPO

The mChassisEventEPO event notification provides an indication that an EPO (emergency power off) button has been pressed. The button may be on the Marway RCM chassis or on a remote panel wired to the chassis. In response to the EPO, typically all outlets will be powered off. Some custom designs may leave certain outlets powered which will be indicated in the documentation and schematic.

The management information provided with this event notification include:

mChassisTime - the date and time this event was observed

mChassisEventDetail - displayable text providing additional detail about this login event

5. Definitions

```
MARWAY-CHASSIS-MIB DEFINITIONS ::= BEGIN

IMPORTS
    MODULE-IDENTITY, OBJECT-IDENTITY,
    OBJECT-TYPE, NOTIFICATION-TYPE
        FROM SNMPv2-SMI          -- [RFC2578]
    TEXTUAL-CONVENTION, TruthValue,
    DateAndTime
        FROM SNMPv2-TC          -- [RFC2579]
    MODULE-COMPLIANCE, OBJECT-GROUP,
    NOTIFICATION-GROUP
        FROM SNMPv2-CONF        -- [RFC2580]
    SnmpAdminString
        FROM SNMP-FRAMEWORK-MIB -- [RFC3411]
    marwayMibs
        FROM MARWAY-SMI-MIB;    -- [MAR-SMI]

marwayChassisMib MODULE-IDENTITY
    LAST-UPDATED "201704100000Z" -- 10 April 2017, midnight
    ORGANIZATION "Marway Power Solutions"
    CONTACT-INFO
        "Marway Power Solutions
        1721 S. Grand Avenue
        Santa Ana, California 92705
        USA

        Telephone: +1 714 917 6200
        EMail:      support@marway.com
        URL:        http://www.marway.com

        Send comments to <support@marway.com>
        "
    DESCRIPTION
        "This MIB module defines defines managed objects
        exposing management information about the
        configuration and status of a Marway chassis entity.

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        rights reserved. Use is subject to license terms.

        The MARWAY-CHASSIS-MIB module is part of Marway
        publication, `The Marway Chassis MIB', April 2017.

        See the publication itself for full legal notices.
        "
```

```
-- Revision log
REVISION      "201704100000Z"  -- 10 April 2017, midnight
DESCRIPTION
    "Initial version, as part of Marway publication `The
    Marway Chassis MIB', April 2017.
    "
 ::= { marwayMibs 4 }

mChassisObjects OBJECT-IDENTITY
STATUS          current
DESCRIPTION
    "This subtree contains OBJECT-TYPE definitions
    exposing management information about Marway Power
    Distribution Units.
    "
 ::= { marwayChassisMib 1 }

mChassisEvents OBJECT-IDENTITY
STATUS          current
DESCRIPTION
    "This subtree contains OBJECT-TYPE and
    NOTIFICATION-TYPE definitions exposing events known
    to Marway RCM products.
    "
 ::= { marwayChassisMib 2 }

mChassisEventNotify OBJECT-IDENTITY
STATUS          current
DESCRIPTION
    "The required SNMP notification prefix.
    "
 ::= { mChassisEvents 0 }

mChassisEventScalars OBJECT-IDENTITY
STATUS          current
DESCRIPTION
    "This subtree contains OBJECT-TYPE definitions that
    can be used in the OBJECTS clause of
    NOTIFICATION-TYPE definitions.
    "
 ::= { mChassisEvents 1 }

mChassisConformance OBJECT-IDENTITY
STATUS          current
DESCRIPTION
    "This subtree contains conformance statements for
    this MIB module.
    "
 ::= { marwayChassisMib 3 }
```



```
--
-- assignments under mChassisConformance
--

mChassisCompliances OBJECT-IDENTITY
    STATUS      current
    DESCRIPTION
        "This subtree contains compliance statements for
        this MIB module.
        "
    ::= { mChassisConformance 1 }

mChassisGroups OBJECT-IDENTITY
    STATUS      current
    DESCRIPTION
        "This subtree contains OBJECT-GROUP and
        NOTIFICATION-GROUP definitions for this MIB module.
        "
    ::= { mChassisConformance 2 }

--
-- Textual Conventions
--

MClockType ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "The source of time synchronization for a clock.

        This value is interpreted as follow:

        `none(1)' - none of the following

        `other(2)' - a source other than one of the
        following

        `sntp(3)' - the source is Simple Network Time
        Protocol (SNTP)

        `rtc(4)' - the source is a local real-time clock
        (RTC)
        "
    SYNTAX INTEGER {
        none(1),
        other(2),
        sntp(3),
        rtc(4)
    }
```

```
--
-- Marway Chassis Objects
--

mChassisActiveClock OBJECT-TYPE
    SYNTAX      MClockType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The time source for this Marway Power Distribution
        Unit.

        See the MClockType textual convention for additional
        information.
        "
    ::= { mChassisObjects 1 }

mChassisTime OBJECT-TYPE
    SYNTAX      DateAndTime
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The local time, as known to a Marway Power
        Distribution Unit.

        The source of this value may be a local real-time
        clock (RTC) or Simple Network Time Protocol (SNTP).

        The value of mChassisActiveClock.0 indicates the
        source of this value.

        When the value of mChassisActiveClock.0 is
        `sntp(3)', an attempt to set this value will receive
        an error response of `inconsistentValue(12)'.
        "
    ::= { mChassisObjects 2 }

mChassisReboot OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "A mechanism for rebooting a Marway Power
        Distribution Unit (PDU) chassis.

        When set to a value of `true(1)', will cause the
        Marway PDU to reboot.

        When read, this value is always `false(2)'.
        "
    ::= { mChassisObjects 3 }
```

```
--
-- accessible-for-notify event scalars
--

mChassisEventDetail OBJECT-TYPE
    SYNTAX      SnmpAdminString
    MAX-ACCESS  accessible-for-notify
    STATUS      current
    DESCRIPTION
        "A short displayable text message providing
        additional detail about an event observed within a
        Marway RCM product.
        "
    ::= { mChassisEventScalars 1 }

mChassisAckId OBJECT-TYPE
    SYNTAX      SnmpAdminString
    MAX-ACCESS  accessible-for-notify
    STATUS      current
    DESCRIPTION
        "The acknowledgement identifier (ACK ID) is a unique
        string associated with an event observed within a
        Marway chassis entity.

        The ACK ID for an event is provided with SNMP
        notifications and, is logged by the agent to any
        configured logging systems. Outside the scope of
        SNMP, the ACK ID is included in any automated email
        and SMS alerts sent directly to configured
        recipients.
        "
    ::= { mChassisEventScalars 2 }

--
-- Chassis Notifications
--

mChassisEventFirmwareConfigChange NOTIFICATION-TYPE
    OBJECTS { mChassisTime,
              mChassisEventDetail
            }
    STATUS current
    DESCRIPTION
        "A change was made to one or more configuration
        parameters within a Marway RCM product.
```

The management information provided within the varbind list include:

mChassisTime - the date and time this event was observed

mChassisEventDetail - displayable text providing additional detail about this firmware configuration change event

..

::= { mChassisEventNotify 1 }

mChassisEventUserLogin NOTIFICATION-TYPE

OBJECTS { mChassisTime,
mChassisEventDetail
}

STATUS current

DESCRIPTION

"A user has logged into a Marway RCM product.

The management information provided within the varbind list include:

mChassisTime - the date and time this event was observed

mChassisEventDetail - displayable text providing additional detail about this event

..

::= { mChassisEventNotify 2 }

mChassisEventEPO NOTIFICATION-TYPE

OBJECTS { mChassisTime,
mChassisEventDetail
}

STATUS current

DESCRIPTION

"An EPO (emergency power off) button has been pressed. The typical response for most products is to power off all outlets. Some custom products may leave certain outlets powered (check the schematics or documentation).

The management information provided within the varbind list include:

mChassisTime - the date and time this event was observed

```

        mChassisEventDetail - displayable text
                               providing additional detail
                               about this event
        "
 ::= { mChassisEventNotify 3 }

--
-- conformance and compliance statements
--

mChassisCompliance1 MODULE-COMPLIANCE
    STATUS current
    DESCRIPTION
        "The compliance statement for Marway systems
        supporting this MIB module.
        "

    MODULE -- this module
        MANDATORY-GROUPS {
            mChassisObjectGroup,
            mChassisNotifyObjectGroup,
            mChassisNotificationGroup
        }
    ::= { mChassisCompliances 1 }

--
-- units of conformance
--

mChassisObjectGroup OBJECT-GROUP
    OBJECTS {
        mChassisActiveClock,
        mChassisTime,
        mChassisReboot
    }
    STATUS current
    DESCRIPTION
        "A collection of managed objects exposing management
        information for Marway chassis entities.
        "
    ::= { mChassisGroups 1 }

mChassisNotifyObjectGroup OBJECT-GROUP
    OBJECTS {
        mChassisEventDetail,
        mChassisAckId
    }
    STATUS current
```

DESCRIPTION

"A collection of managed objects exposing additional information about events observed within Marway chassis entities.
"

::= { mChassisGroups 2 }

mChassisNotificationGroup NOTIFICATION-GROUP

NOTIFICATIONS {

mChassisEventFirmwareConfigChange,
mChassisEventUserLogin,
mChassisEventEPO

}

STATUS current

DESCRIPTION

"A collection of managed objects exposing event notifications observed within Marway chassis entities.
"

::= { mChassisGroups 3 }

END

6. Acknowledgments

The production and maintenance of this memo is a group effort of the Marway Power Solutions development team.

7. Security Considerations

There are a number of management objects defined in this MIB module with a MAX-ACCESS clause of read-write and/or read-create. Such objects may be considered sensitive or vulnerable in some network environments. The support for SET operations in a non-secure environment without proper protection can have a negative effect on network operations. These are the objects and their sensitivity/vulnerability:

In the mChassisObjects scalar group-

mChassisTime

Tampering with a properly configured mChassisTime setting MAY cause inaccurate reporting of the date and time associated with events observed within a Marway chassis.

mChassisReboot

Setting the value of mChassisReboot to `true(1)' causes the Marway chassis to reboot and MAY result in the interruption of power to down stream devices

None of the readable objects in this MIB module (i.e., objects with a MAX-ACCESS other than not-accessible) are considered sensitive or vulnerable within network environments.

SNMP versions prior to SNMPv3 did not include adequate security. Even if the network itself is secure (for example by using IPsec), even then, there is no control as to who on the secure network is allowed to access and GET/SET (read/change/create/delete) the objects in this MIB module.

It is RECOMMENDED that implementers consider the security features as provided by the SNMPv3 framework (see [RFC3410], section 8), including full support for the SNMPv3 cryptographic mechanisms (for authentication and privacy).

Further, deployment of SNMP versions prior to SNMPv3 is NOT RECOMMENDED. Instead, it is RECOMMENDED to deploy SNMPv3 and to enable cryptographic security. It is then a customer/operator

responsibility to ensure that the SNMP entity giving access to an instance of this MIB module is properly configured to give access to the objects only to those principals (users) that have legitimate rights to indeed GET or SET (change/create/delete) them.

8. References

8.1 Normative References

- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.
- [RFC2578] McCloghrie, K., Perkins, D., Schoenwaelder, J., Case, J., Rose, M., and S. Waldbusser, "Structure of Management Information Version 2 (SMIV2)", STD 58, RFC 2578, April 1999.
- [RFC2579] McCloghrie, K., Perkins, D., Schoenwaelder, J., Case, J., Rose, M., and S. Waldbusser, "Textual Conventions for SMIV2", STD 58, RFC 2579, April 1999.
- [RFC2580] McCloghrie, K., Perkins, D., Schoenwaelder, J., Case, J., Rose, M., and S. Waldbusser, "Conformance Statements for SMIV2", STD 58, RFC 2580, April 1999.
- [RFC6933] Bierman, A., Romascanu, D., Quittek, J., and M. Chandramouli, "Entity MIB (Version 4)", RFC 6933, May 2013
- [MAR-SMI] Marway Power Solutions, "The Marway Structure of Management Information (SMI), April 2017.

8.2 Informative References

- [RFC3410] Case, J., Mundy, R., Partain, D., and B. Stewart, "Introduction and Applicability Statements for Internet-Standard Network Management Framework", RFC 3410, December, 2002.

Change Log

Changes introduced in revision "20170410000Z", 10 April 2017
- initial version

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