A Recommended Standard of the Joint Committee on the NTCIP

NTCIP 1201 v04.08a

National Transportation Communications for ITS Protocol Global Object (GO) Definitions

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Revision	Date	Author	Description (latest on top)
08a	01/09/2025	Vaughn	Update to RS in preparation for ballot
08	08/30/2024	Vaughn	Editorial changes preparing for pRS
07	08/29/2023	Vaughn	Post UCD Edits
06	07/01/2023	Vaughn	Removed systems engineering process information to prevent conflicts with previously published standards.
05	06/08/2023	Vaughn	Added systems engineering process information; moved transaction mode version 2 and recording mechanism version 2 to ISO 26048-1.
04	02/13/2023	Vaughn	Updated status to proposed User Comment Draft; updated copyright year to 2023; removed internal WG comments
03	01/09/2023	Vaughn	Revised text in Acknowledgements to correct page numbering; moved many of the comments into description fields to conform with SMIv2 rules that prohibit normative comments; corrected typos. Ensured consistent use of subclauses within DESCRIPTION clause. Added the NTCIP1201-Global MIB to define nodes that need to be imported by multiple modules. Removed comments that have been addressed by the WG. Updated MIB contact information and parent MIB structure.
02	11/20/2022	Vaughn	Updated front matter and Section 1, simplified OBJECT-GROUPs, renamed modules for consistency, updated annexes.
01	10/21/2022	Vaughn	Initial draft document to incorporate security improvements as recommended by NTCIP 9014 and the Infrastructure Standards Security Assessment (ISSA) Project.

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FOREWORD

This document is an NTCIP Data Dictionary Standard. NTCIP Data Dictionary Standards provide definitions of data elements for use within NTCIP systems. The data is defined using the format specified in NTCIP 8004, which is based on the formats defined in RFC 2578. This data is typically exchanged using the Simple Network Management Protocol (SNMP) as defined in NTCIP 2301.

NTCIP Data Dictionary Standards are separately balloted and approved by AASHTO, ITE, and NEMA, after recommendation by the Joint Committee on the NTCIP. Each organization has approved this document as the following standard type:

AASHTO–Standard Specification;

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Standards Publication number and version:
Page:
Section, Paragraph, or Clause:
Comment:
Editorial or Substantive?:
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History

Version	Date	Description (latest on top)
V04	TBD	Incorporated NTCIP 1103 MIBS, updated to SMIv2, deprecated objects to reference ISO and IETF standards.
v03	March 2011	Revised daylight-saving design
v02	October 2005	Developed to reflect additional lessons learned, to incorporate better documentation (in the Annex) of some of the logic required to implement the standards, and to add new features requested by the ITS community.
v01A	December 1999	Technical corrections
v01	December 1997	Original version balloted and approved by AASHTO and ITE to become an NTCIP standard.
NEMA TS 3.4	October 1996	Original version approved by NEMA prior to the formation of the Joint Committee process.

Details about the revisions made since the last major version are provided in Annex D.

INTRODUCTION

This document identifies and defines the common object definitions that may be supported by transportation devices that are NTCIP-conformant.

This document contains two normative and four informative annexes.

The following keywords apply to this document: AASHTO, ITE, NEMA, NTCIP, global, data, data dictionary, object.

This document only uses metric units.

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Section 1 GENERAL

1.1 SCOPE

The NTCIP 1200 series defines standardized data elements that can be exchanged between a traffic management center (or any other management station) and a field device. This document identifies and defines data elements that can be supported by multiple types of devices (e.g., actuated signal controllers, dynamic message signs, connected vehicle roadside units).

All data elements defined in this document have been deprecated. Current data elements to fulfill a similar set of user needs can be found in ISO 26048-1.

The data defined in this standard was originally defined using the Structure of Management Information Version 1 (SMIv1) format, as defined in RFC 1212, and intended for implementations using the Simple Network Management Protocol Version 1 (SNMPv1). This document migrates the original data element definitions to use SMIv2, as defined by RFC 2578, to enable its unambiguous exchange when using SNMPv3.

This document does not apply to interfaces using SNMPv1 and the continued use of SNMPv1 is discouraged. New implementations should use data elements defined in ISO 26048-1. This document is intended to allow the data originally developed for SNMPv1 devices to be exchanged via an SNMPv3 interface. Specifically, this document is envisioned to address the interface between a management station and a proxy agent, as shown in Figure 1, and similar environments.

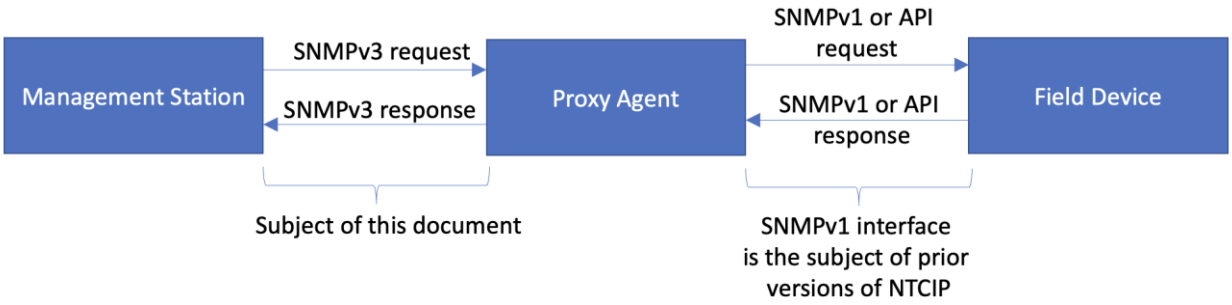

Figure 1: Focus of this standard

NOTE — Figure 1 reflects the expectation that management stations will be upgraded to SNMPv3 before field devices due to their limited numbers, but the data defined in this document applies for any SNMPv3 interface using the previously defined data included in this document, even those where the field device is upgraded first.

The management station is typically a traffic management center but could be any device acting as a SNMPv3 command generator (e.g., a field technician's laptop, a connected vehicle roadside unit). The field device is the device that is to be controlled and/or monitored by the management station. The proxy agent is responsible for providing secure communications between the traffic management center to a location very near the field device where a level of physical security can be provided. The interface between the proxy agent and the field device is not addressed by this standard; however, the expectation is that this interface is likely either:

1. an SNMPv1 interface (when the proxy agent is a separate physical device) or
2. an application programming interface (when the proxy agent is implemented as a software routine within the field device).

The manager communicates to the proxy agent using legacy versions of NTCIP data (as defined by this document) contained in SNMPv3 requests. If the request contains valid security credentials for the requested data, the proxy agent translates the SNMPv3 request into a format understood by the field device (e.g., SNMPv1) and forwards it to the older field device. The field device responds to the request and the proxy agent translates this response into SNMPv3. The proxy agent could be internal or external to the field device.

NOTE — Throughout the remainder of this document, the term "data element" is replaced with the term "object type" to align with SNMPv3 terminology.

1.2 REFERENCES

The following documents are referenced by this document. At the time of publication, the editions indicated were valid.

1.2.1 Normative References

Normative references contain provisions that, through reference in this text, constitute provisions of this document. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed.

AASHTO / ITE / NEMA NTCIP 8004 v03	Structure and Identification of Management Information (SMI) published (Pending)
IETF RFC 2578	Structure of Management Information Version 2 (SMIv2), April 1999
IETF RFC 2579	Textual Conventions for SMIv2, April 1999
IETF RFC 3418	Management Information Base (MIB) for the Simple Network Management Protocol (SNMP), December 2002
ISO/IEC/IEEE 24765:2017	Systems and software engineering – Vocabulary

1.2.2 Other References

Other references are included to provide a more complete understanding of this document and its relationship to other documents.

AASHTO / ITE / NEMA NTCIP 2301 v03	Simple Transportation Management Framework Application Profile (Pending)
AASHTO / ITE / NEMA NTCIP 8005 v02	Procedures for Creating Management Information Base (MIB) Files published (Pending)
IETF RFC 854	Telnet Protocol Specification
IETF RFC 3411	An Architecture for Describing Simple Network Management Protocol (SNMP) Management Framework, December 2002
IETF RFC 3412	Message Processing and Dispatching for the Simple Network Management Protocol (SNMP), December 2002
IETF RFC 3413	Simple Network Management Protocol (SNMP) Applications, December 2002
IETF RFC 3415	View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP), December 2002
IETF RFC 3416	Version 2 of the Protocol Operations for the Simple Network Management Protocol (SNMP) , December 2002
IETF RFC 3417	Transport Mappings for the Simple Network Management Protocol (SNMP)
IETF RFC 4181	Guidelines for Authors and Reviewers of MIB Documents, September 2005
IETF RFC 5591	Transport Security Model for the Simple Network Management Protocol (SNMP), June 2009

IETF RFC 6353	Transport Layer Security (TLS) Transport Model for the Simple Network Management Protocol (SNMP), July 2011
IETF RFC 6933	Entity MIB (Version 4), May 2013
IETF RFC 9456	Updates to the TLS Transport Model for SNMP, November 2023
ISO 15784-2:2024	Intelligent transport systems — Data exchange involving roadside equipment communication — Part 2: Centre to field device communications using SNMP
ISO 21217:2020	Intelligent transport systems — Station and communications architecture
ISO 26048-1:–[1]	Intelligent transport systems – Field device SNMP data interface – Part 1: Global objects
NEMA TS 2-2016	Traffic Controller Assemblies with NTCIP Requirements

1.2.3 Contact Information

1.2.3.1 IAB and IETF Documents

For Internet Architecture Board (IAB) and Internet Engineering Task Force documents, contact:

Internet Architecture Board (IAB)
www.rfc-editor.org

1.2.3.2 NTCIP Documents

Copies of NTCIP documents may be obtained from:

NTCIP Coordinator
National Electrical Manufacturers Association
1300 N.17th Street, Suite 1752
Rosslyn, Virginia 22209-3801
www.ntcip.org
e-mail: ntcip@nema.org

Draft amendments, which are under discussion by the relevant NTCIP Working Group, and amendments recommended by the NTCIP Joint Committee are available.

1.2.3.3 National Electrical Manufacturers Association (NEMA) Standards

Obtain NEMA standards from:

National Electrical Manufacturers Association
1300 North 17th Street, Suite 1752
Rosslyn, Virginia 22209
www.nema.org

1.3 GENERAL STATEMENTS

1.3.1 Use of SMIv2

Prior versions of NTCIP 1201 were based on SNMPv1, which used the Structure of Management Information (SMI) Version 1 (v1) management information base (MIB) structure. SNMPv3 requires data to be defined in the SMI Version 2 (v2) format, as defined in RFC 2578. This document defines the official

[1] Publication of this document is expected in late 2024 or early 2025; drafts for commenting purposes are available upon request

translation of the MIBs previously defined in NTCIP 1201v03 and NTCIP 1103v03 into the SMIv2 format, per the rules of NTCIP 8004.

This translation provides an unambiguous, standardized definition of how to represent the previously defined data when using SNMPv3. For example, using this MIB, an SNMPv3 traffic management system can exchange data with an SNMPv1 device through a proxy agent, as shown in Figure 1. This arrangement allows for secure communications between the traffic management system and the proxy agent while steps can be made to physically secure the connection between the proxy agent and device. This is one way in which systems may choose to migrate to a more secure environment.

While the MIBs contained in this document can be used with SNMPv3, doing so does not resolve all known security issues.

1.3.2 See Other Documents for Additional Details

This document only provides MIBs translated into SMIv2 format. See NTCIP 1103 v03 and NTCIP 1201 v03 for the formal SMIv1 MIB definitions and additional details about their use. Copies of all versions of NTCIP MIB files are maintained on the NTCIP website.

1.3.3 SNMPv3

The information defined in this document can theoretically be exchanged over any communications stack, but is designed to be exchanged using SNMPv3, as described in NTCIP 2301 v03, which requires support for the Transport Layer Security (TLS) Transport Model, as defined in RFC 6353 and RFC 9456.

1.3.4 Proxy Agents

In addition to a proxy agent serving as a translator for the object types defined in this document, the proxy agent shall allow the management of its security credentials. A proxy that supports the NTCIP 2301 v03 interface shall support the object types identified in NTCIP 2301 v03 for this purpose.

NOTE — For example, a management station can send an SNMPv3 request to the proxy that the proxy will translate and forward to the field device. A management station can separately send an SNMPv3 request to the proxy to configure the proxy's security credentials (this request is not forwarded to the field device). The intended destination of each request is determined based on the context specified within the SNMPv3 request.

1.3.5 Superseding and Supplanting Objects

Many of the object types defined in this document identify superseding or supplanting object types by using a "<Superseded by>" or "<Supplanted by>" clause. Supplanting object type(s) provide similar functionality while superseding objects provide a new interface for the same device capability.

For example, the eventConfigMode identifies the fdCondTriggerMode of ISO 26048-1 as a supplanting object. In this case, both objects provide similar functionality (i.e., identifying a type of condition to use to trigger an event), but setting an instance of eventConfigMode does not affect any instance of fdCondTriggerMode in an implementation that supports both objects.

By contrast, globalTime identifies fdClockUtcDate and fdClockUtcTime as superseding objects. In other words, if a device supports both globalTime and fdClockUtcTime, setting globalTime will affect the time reported by fdClockUtcTime. The core device capability is the same (e.g., keeping time), but there is a new interface that provides greater range and resolution.

1.3.6 Agent Capability Statements

Prior versions of NTCIP granted implementors the right to edit standardized MIB files to reflect the capabilities offered by their implementation. For example, in NTCIP 1103 v03, eventConfigID was defined

with a syntax of "INTEGER (0..65535)". Implementors were allowed to edit this file to subrange the syntax of eventConfigID to correspond with the range supported by their implementation. However, this presented its own challenges for managers trying to load multiple versions of the same MIB file.

Implementors are not allowed to edit standardized SMIv2 MIB files. Instead, implementations should be provided with a file containing an AGENT-CAPABILITIES macro, as defined in RFC 2580. The AGENT-CAPABILITIES macro allows implementors to describe the variances in their implementation in a standardized way so that managers can quickly discover capabilities of each connected implementation.

1.4 TERMS

For the purposes of this document, the following terms and definitions apply. Terms not defined here are in accordance with their definitions in NTCIP 8004. Systems and software engineering terms not defined here are used in accordance with their definitions in ISO/IEC/IEEE 24765. English words not defined here or in ISO/IEC/IEEE 24765 are used in accordance with their definitions in Webster's New Collegiate Dictionary.

ASC	actuated signal controller
component	central system, field device, etc., that supports NTCIP
control object	writeable object types used to request real-time activation of a feature of a device NOTE—In some cases, control objects can also be used to report status.
cyclic redundancy check (CRC)	polynomial algorithm performed on a specified range of data resulting in a 16 or 32 bit value
DST	daylight saving time
feature	capability of a component
interchangeable	condition that exists when two or more items possess such functional and physical characteristics as to be equivalent in performance and durability, and are capable of being exchanged one for the other without alteration of the items themselves, or adjoining items, except for adjustment, and without selection for fit and performance. NOTE—See National Telecommunications and Information Administration, U.S. Department of Commerce.
interrelated parameter object	writeable object type used to configure an SNMP agent where the parameter has sufficient interrelationships with other object types to typically require multiple SNMP set operations using multiple SetRequest messages or a complex validation check that might consume more time than is reasonable for a traditional SNMP response
parameter object	writeable object type used to configure the SNMP agent where the parameter can be set and validated using a single SNMP set operation
Point-to-Multi-Point Protocol (PMPP)	transportation specific subnetwork layer protocol that was designed to enable communication between multiple devices on the same communications line/channel NOTE—The protocol is considered a legacy design because the communication links for which it was designed are unlikely to be able to support the data demands of a secure environment.
Simple Transportation Management Protocol (STMP)	Part of the legacy Transportation Management Protocols of the NTCIP effort. NOTE—See NTCIP 1103. STMP provided a simple and bandwidth efficient mechanism to communicate with field devices. NOTE—The protocol is considered a legacy design because the communication links for which it was designed are unlikely to be able to support the data demands of a secure environment.
status object	read-only object that reports a condition monitored by the SNMP agent

Section 2 DEPRECATED GLOBAL MIB

The text provided from Section 2.1 through the end of Section 2 (except the headings) constitutes the standard NTCIP1201-Global MIB.

**** All objects contained in this MIB are deprecated. ****

2.1 NTCIP HEADER

```
NTCIP1201-Global DEFINITIONS ::= BEGIN
IMPORTS
MODULE-IDENTITY, OBJECT-TYPE, OBJECT-IDENTITY, Integer32, Unsigned32,
   zeroDotZero
                                                FROM SNMPv2-SMI
                                                  -- RFC 2578
   AutonomousType, VariablePointer
                                                FROM SNMPv2-TC
                                                  -- RFC 2579
   devices, profiles
                                                FROM NTCIP8004-Transportation;

global MODULE-IDENTITY
LAST-UPDATED "20230701145436Z"
ORGANIZATION "NTCIP BSP2 WG"
CONTACT-INFO
  "name: NTCIP Coordinator
   email:  ntcip@nema.org
   postal: National Electrical Manufacturers Association
           1300 North 17th Street, Suite 1752
           Rosslyn, Virginia 22209-3801"
DESCRIPTION
  "<Definition> This MIB defines the SMIv2 representation of various globally
  applicable objects that were previously defined in NTCIP 1201 v03.
  *** All objects in this MIB have been deprecated. ***

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.8"

REVISION "20230701145436Z"
DESCRIPTION
  "NTCIP 1201 v04 - Upgraded format to SMIv2 and deprecated all objects."

REVISION "200803240000Z"
DESCRIPTION
  "NTCIP 1201 v03 - Added DST table objects. Created standalone MIBs for the
  main portion of the MIB and the 2 different versions of AuxIO objects."

REVISION "200409270000Z"
DESCRIPTION
  "NTCIP 1201 v02 - Removed global report, logicalNameTranslation and
  communityName nodes as they are now included in NTCIP 1103v0124. Removed
  state transition diagram form 2.3.1. Changed 'FROM NTCIP8004-A' to 'FROM
  NTCIP8004-A-2004' and restructured associated imports. Changed status of
  moduleNumber, timeBaseScheduleNumber, dayPlanNumber, dayPlanEventNumber,
  eventClassNumber, eventConfigID and their associated Entry to mandatory
  from optional to eliminate incompatible status errors."

REVISION "199810010000Z"
```

```
DESCRIPTION
  "Amendment 1 to NTCIP 1201 v01 (a.k.a. Amendment 1 to NEMA TS 3.4 and NTCIP
  1201:1998): Editorial corrections. Revised DST object."

REVISION "199610010000Z"
DESCRIPTION
  "Original version approved as NEMA TS 3.4 (a.k.a. NTCIP 1201 v01)."

::= { devices 6 }
```

2.2 OBJECT IDENTITIES

2.2.1 Global Configuration Node

```
globalConfiguration OBJECT-IDENTITY
STATUS     deprecated
DESCRIPTION
  "<Definition> This node is an identifier used to group all objects for
  support of configuration functions that are common to most device types.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.1"

::= { global 1 }
```

2.3 OBJECTS

2.3.1 Global Set ID Parameter

```
globalSetIDParameter OBJECT-TYPE
SYNTAX     Integer32 (0..65535)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> Specifies a relatively unique ID (e.g., this could be a
  counter, a check-sum, etc.) for all user-changeable parameters of the
  particular device-type currently implemented in the device. Often this ID
  is calculated using a CRC algorithm. This value shall be calculated when a
  change of any parameter object has occurred. The value reported by this
  object shall not change unless there has been a change in the static data
  since the last request. If the actual objects, which are to be included to
  create this object value, are not defined in the actual device-level
  standard such as 1202 or 1203, then the general guidance is to include all
  configuration objects that are stored in a type of memory that survives
  power outages. A management station can use this object to detect any
  change in the parameter objects by monitoring this value after it has
  established a baseline.

  <Superseded by> FIELD-DEVICE-MAIN-MIB.fdConfigurationID (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.1.1"

::= { globalConfiguration 1 }
```

2.3.2 Maximum Modules Parameter

```
globalMaxModules OBJECT-TYPE
SYNTAX     Integer32 (1..255)
UNITS      "modules"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The number of rows that are listed in the globalModuleTable.
```

```
  <Informative> The module table has been replaced with features from other
  standards so this object is no longer needed.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.1.2"

::= { globalConfiguration 2 }
```

2.3.3 Module Table

```
moduleTable OBJECT-TYPE
SYNTAX     SEQUENCE OF ModuleEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> A table containing information regarding manufacturer of
  software and hardware and the associated module models and version numbers
  as well as an indicator if the module is hardware or software related. The
  number of rows in this table shall equal the value of the globalMaxModules
  object.

  <Informative> The module table has been replaced with features from other
  standards.

  <Table Type> static

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.1.3"

::= { globalConfiguration 3 }

moduleEntry OBJECT-TYPE
SYNTAX     ModuleEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> This object defines an entry in the module table.

  <Informative> The module table has been replaced with features from other
  standards.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.1.3.1"

INDEX      { moduleNumber }
::= { moduleTable 1 }

ModuleEntry ::= SEQUENCE {
        moduleNumber     INTEGER,
        moduleDeviceNode AutonomousType,
        moduleMake       OCTET STRING,
        moduleModel      OCTET STRING,
        moduleVersion    OCTET STRING,
        moduleType       INTEGER}
```

2.3.3.1 Module Number Parameter

```
moduleNumber OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object contains the row number (1..255) within this
  table for the associated module.
```

```
  <Informative> The module table has been replaced with features from other
  standards so a row number is no longer needed.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.1.3.1.1"

::= { moduleEntry 1 }
```

2.3.3.2 Module Device Node Parameter

```
moduleDeviceNode OBJECT-TYPE
SYNTAX     AutonomousType
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the device node number of the device-
  type, e.g., an ASC signal controller would have an OID of
  1.3.6.1.4.1.1206.4.2.1.

  <Supplanted by> SNMPv2-MIB.sysORID (from RFC 3418)

  <Informative> The intent of this object was to provide an indication of the
  type of data within the device. This is achieved at a much finer level of
  detail with the replacement object, which is a required object per SNMPv3
  standards.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.1.3.1.2"

::= { moduleEntry 2 }
```

2.3.3.3 Module Make Parameter

```
moduleMake OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>This object specifies the manufacturer of the associated
  module. A null-string shall be transmitted if this object has no entry.

  <Supplanted by> ENTITY-MIB.entPhysicalMfgName (RFC 6933)

  <Informative> The entPhysicalTable allows (but does not require) an
  implementation to show relationships among components thereby providing
  more meaningful information for devices that need to provide this level of
  detail. It is also defined as a multi-lingual string that will allow
  managers to automatically display the text in the appropriate format.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.1.3.1.3"

::= { moduleEntry 3 }
```

2.3.3.4 Module Model Parameter

```
moduleModel OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>This object specifies the model number (hardware) or firmware
  reference (software) of the associated module. A null-string shall be
  transmitted if this object has no entry.

  <Supplanted by> ENTITY-MIB.entPhysicalModelName (RFC 6933)

  <Informative> The entPhysicalTable allows (but does not require) an
  implementation to show relationships among components thereby providing
```

```
  more meaningful information for devices that need to provide this level of
  detail. It is also defined as a multi-lingual string that will allow
  managers to automatically display the text in the appropriate format.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.1.3.1.4"

::= { moduleEntry 4 }
```

2.3.3.5 Module Version Parameter

```
moduleVersion OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>This object specifies the version of the associated module. If
  the moduleType has a value of software, the value of this object shall
  include the date on which the software was released as a string in the form
  of YYYYMMDD, it shall be followed by a space, a hyphen, another space, the
  lower-case letter 'v', followed by a version or configuration number.
  Preceding zeros shall be required for the date. For example, version
  7.03.02 of the software released on July 5, 2002 would be presented as
  20020705: v7.03.02
  A null-string shall be transmitted if this object has no entry.

  <Supplanted by> ENTITY-MIB.entPhysicalHardwareRev & ENTITY-
  MIB.entPhysicalSoftwareRev (RFC 6933)

  <Informative> The entPhysicalTable allows (but does not require) an
  implementation to show relationships among components thereby providing
  more meaningful information for devices that need to provide this level of
  detail. It is also defined as a multi-lingual string that will allow
  managers to automatically display the text in the appropriate format.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.1.3.1.5"

::= { moduleEntry 5 }
```

2.3.3.6 Module Type Parameter

```
moduleType OBJECT-TYPE
SYNTAX     INTEGER { other (1),
                     hardware (2),
                     software (3) }
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object specifies whether the associated module is a
  hardware or software module.

  <Informative> The ENTITY-MIB.entPhysicalTable (RFC 6933) allows the
  definition of physical entities that contain hardware and/or software and
  allows associations among them.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.1.3.1.6"

::= { moduleEntry 6 }
```

2.3.4 Base Standards Parameter

```
controllerBaseStandards OBJECT-TYPE
SYNTAX     OCTET STRING (SIZE (0..256))
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
```



```
  "<Definition> For use in this object, an ASCII string that shall identify
  all of the standard document numbers that define or reference MIBs upon
  which the device is based. Where applicable, profiles shall be referenced
  rather than the base standards.

  <Format> The version string shall be constructed as follows:
  The acronym of the standards development organization (or other body) that
  developed and approved the standard; a space; the standards document
  number; a colon; and the documents version number as designated by the
  standards development organization (or other body). Separate entries in the
  list of standards shall be separated by a carriage return (0x0d) and line
  feed (0x0a).

  In the case of NTCIP documents prior to formal approval, the version number
  shall be the version number in the form of lower case 'v' followed by the
  major version followed by a period followed by the minor revision. In the
  case of approved NTCIP standards, the publication year shall precede the
  version number. In the case of amended NTCIP standards, the version number
  shall be replaced by the four digit year of publication of the published
  standard followed by the upper case letter 'A', followed by the amendment
  number.

  For example, a message sign may have the following value for this object:
  NTCIP 1201:v02.19
  NTCIP 1203:1997A1
  NTCIP 2101:2001 v01.19
  NTCIP 2103:v01.13
  NTCIP 2201:v01.14
  NTCIP 2301:2001 v01.08

  <Supplanted by> SNMPv2-MIB.sysORID (from RFC 3418)

  <Informative> sysORID provides more refined information using OIDs to
  identify compliance statements that can be processed by computers without
  having to parse strings.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.1.4"

::= { globalConfiguration 4 }
```

2.4 GLOBAL DATABASE MANAGEMENT NODE

```
globalDBManagement OBJECT-IDENTITY
STATUS     deprecated
DESCRIPTION
  "This node is an identifier used to group those objects used to manage a
  transaction.

  A transaction is a SET of one or more database parameters that have inter-
  relationships with other database parameters, as such a SET for any one of
  these objects must be validated against a set of consistency checks and may
  potentially require the setting of a large number of objects
  simultaneously. Thus, the mode described by these objects allow for such a
  large database download.

  Any device standard that allows this feature shall define which objects are
  database parameters versus status or control objects.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.2"

::= { global 2 }
```

2.4.1 Database Creation Transaction

```
dbCreateTransaction OBJECT-TYPE
SYNTAX     INTEGER { normal (1),
                     transaction (2),
                     verify (3),
                     done (6) }
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object provides transaction control for device
  configuration. The transaction mode changes the behavior of the agent to
  force buffering of parameter objects until all related parameter objects
  have been modified. In the normal mode, SET operations to any parameter
  object shall either be stored in a device's database immediately with no
  regard to whether other changes will be made or be rejected (as defined in
  the device-specific Information Profile). In the transaction mode, SET
  operations to any parameter object shall be buffered until a verify state
  performs a consistency check. When the consistency check completes, the
  device automatically transitions to the done state where a normal or
  transaction command may be issued.

  A parameter object is a user-provided piece of setup information (or it may
  be defined in an information profile) that is necessary for the proper
  operation of a device. It is static in nature in that the agent would never
  change it without direction from the management station. For example, an
  object that defines a default mode of operation would be a parameter
  object. An object that indicates the current state of the device would not
  be a parameter object.

  <Format> The states and commands are defined as:

  NORMAL: SET operations behave as normal SETs and shall have an immediate
  effect on the value of any parameter objects used by the device if none of
  the objects contained in the operation require the use of the transaction
  mode (as defined in the device-specific Information Profile). A SET
  operation containing any transaction object (i.e., a parameter object that
  requires the use of transaction mode) shall result in a genErr. This is the
  default state of this object.
  The only command that may be written to dbCreateTransaction while in this
  state is TRANSACTION. Any other values written to this object in this state
  shall result in an error response of 'badValue'.

  TRANSACTION: A SET operation of one or more parameter objects that use the
  same community name as used in the request for the TRANSACTION state are
  buffered by the agent device for later consistency checks and a normal
  response is returned. A SET operation of one or more parameter objects
  using different community names shall result in a genErr with the index set
  to zero. A SET operation without a community name field (e.g., an STMP
  operation) shall be buffered by the agent device for later consistency
  checks and a normal response is returned. Standard SYNTAX checking shall
  take place at the time of the SET operation. A transaction may consist of
  multiple SET operations over multiple frames.
  A SET operation for one or more non-parameter objects shall be processed as
  normal even if it uses another community name, except for this (i.e., the
  dbCreateTransaction) object.
  A SET operation containing both parameter and non-parameter objects shall
  be processed in full according to these two rules. Thus, if it contains the
  same community name as used in the request for the TRANSACTION state, the
```


non-parameter objects shall be stored immediately while the parameter objects shall be buffered. If it uses a different community name, the entire request will be rejected and a genErr with an index of zero shall be returned.
GET operations on any object shall return the values of the data stored in the controller and shall ignore any values contained in the buffer.
Any valid community name may read this (dbCreateTransaction) object when in this state, but only the community name used to command the object to the transaction mode and the administrator community name can set this object. A set from any other community name shall result in a genErr with an index of zero. The only commands that can be written to dbCreateTransaction while in this state are VERIFY and NORMAL. A VERIFY command will change the state to VERIFY. If a NORMAL command is received, all buffered data is discarded and the state is returned to NORMAL. Any other values written to this object when in this state shall result in an error response of 'badValue'.

VERIFY: Specific parameter objects are checked for consistency. When consistency checks are complete the device will automatically advance to the DONE state.
The state of dbCreateTransaction cannot be changed when in the VERIFY state. Any values written to this object in this state shall result in an error response of 'badValue'.
The consistency check analyzes certain critical objects 'in context' and treats them as an interrelated whole rather than separate non-related data items. The consistency check rules are not defined in NTCIP 1201 v03, since these are device and implementation specific. Where applicable, the consistency check rules are defined in application specific object definition standards. A specific implementation may add additional checks beyond those defined in NTCIP standards.
A SET operation containing any parameter objects while in the VERIFY state shall result in a genErr with the index set to zero.

DONE: This state is entered automatically once consistency checks have completed in the VERIFY mode. The value of dbVerifyStatus and dbVerifyError indicate whether the consistency check found any errors.
A SET operation containing any parameter objects while in the DONE state shall result in a genErr with the index set to zero.
Any valid community name may read this (dbCreateTransaction) object when in this state, but only the community name used to command the object to the transaction mode and the administrator community name can set this object. A set from any other community name shall result in a genErr with an index of zero. The only commands that can be written to dbCreateTransaction while in this state are NORMAL and TRANSACTION. Any other values written to this object in this state shall result in an error response of 'badValue'.
If a NORMAL command is issued and dbVerifyStatus indicates doneWithNoError, the buffered data is transferred to the device memory and the state is returned to NORMAL. If a NORMAL command is issued and dbVerifyStatus indicates something other than doneWithNoError then the buffered data is discarded and the state is returned to NORMAL.
If a TRANSACTION command is issued, regardless of dbVerifyStatus, no action takes place (the buffered data is not changed) and the TRANSACTION state is re-entered.

	COMMANDED STATE (9)		
CURRENT STATE	transaction	verify	normal	done

```
  --------------+-----------------+------------+------------+----------------

  normal        | transaction (1) | normal (2) | normal (2) |    normal (2)

  transaction   | transaction (2) | verify (3) | normal (4) | transaction (2)

  verify (7)    |   verify (2)    | verify (2) | verify (2) |    verify (2)

  done (8)      | transaction (5) |  done (2)  | normal (6) |     done (2)
```

Operational procedures and error responses:

(1) Once a copy of all parameter objects is placed in a buffer, the state is changed to transaction and error response indicates noError. If the operation fails, the state remains the same and error response indicates genErr.

(2) No action takes place, the state remains the same, but response indicates badValue.

(3) The state is changed to verify, a consistency check is started, and response indicates noError. Once the consistency check is completed, the state automatically changes to done.

(4) The buffered copy of all parameter objects is discarded, the state is changed to normal, and response indicates noError.

(5) The buffered copy of all parameter objects is not changed or reloaded, the state is changed to transaction, and response indicates noError.

(6) If dbVerifyStatus indicates doneWithNoError, then the copy of all parameter objects is transferred to memory, the state is changed to normal and response indicates noError. If dbVerifyStatus indicates doneWithError then the buffered data is discarded, the state is changed to NORMAL, and response indicates noError.

(7) The state automatically changes to done when the consistency check completes.

(8) dbVerifyStatus and dbVerifyError are only valid in this state.

(9) All SET operations on this (dbCreateTransaction) parameter shall be made using a protocol that uses a community name, or equivalent field (e.g., SNMP).

<Supplanted by> ISO26048-1-Transaction.fdTransactionMode

<Informative> The original version of this object referenced SNMPv1 error codes, community names, and an administrator name; the V2 object updates these details to be SNMPv3 specific.

<Object Identifier> 1.3.6.1.4.1.1206.4.2.6.2.1"

```
DEFVAL     { normal }
::= { globalDBManagement 1 }
```

2.4.2 Database Error Type Parameter

```
dbErrorType OBJECT-TYPE
SYNTAX     INTEGER { tooBig (1),
                     noSuchName (2),
                     badValue (3),
                     readOnly (4),
                     genError (5),
```



```
                    updateError (6),
                    noError (7) }
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object returns the current error status of the
  transaction. The value of this object is only valid when the
  dbCreateTransaction object is in the Done or Error state.

  <Informative> This object was deprecated in NTCIP 1201 v02

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.2.2"

::= { globalDBManagement 2 }
```

2.4.3 Database Error ID Parameter

```
dbErrorID OBJECT-TYPE
SYNTAX     OBJECT IDENTIFIER
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object contains the object identifier of the first
  object in the transaction buffer that caused an error while
  dbCreateTransaction object was in the Verifying or Updating state. The
  value of this object is only valid when the dbCreateTransaction object is
  in the Error state. It is undefined when the dbCreateTransaction object is
  in other states.

  <Informative> This object was deprecated in NTCIP 1201 v02

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.2.3"

::= { globalDBManagement 3 }
```

2.4.4 Database Transaction ID Parameter

```
dbTransactionID OBJECT-TYPE
SYNTAX     Integer32 (0..255)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object contains the transaction ID value that is to be
  contained in all SET operation writes while the dbCreateTransaction object
  is not in the Normal state. During transaction operations every SET command
  shall begin with a write to this object with the current value of this
  object. If a SET operation is performed without writing to this object, or
  with a value that does not match the current value, then an error response
  of 'genError' shall be returned. This mechanism is used to determine that
  the same management station that started the transaction is performing the
  SET operations that are being buffered or modifying the state of
  dbCreateTransaction.

  <Informative> This object was deprecated in NTCIP 1201 v02

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.2.4"

::= { globalDBManagement 4 }
```

2.4.5 Database Make ID Parameter

```
dbMakeID OBJECT-TYPE
SYNTAX     Integer32(0..255)
MAX-ACCESS read-only
STATUS     deprecated
```

```
DESCRIPTION
  "<Definition> This object is used to create unique transaction ID's for
  management stations to use when starting transactions using the
  dbCreateTransaction object. This object will be incremented by one every
  time it is read, so that different values will be returned for each read.
  Management stations wishing to start a transaction should first read the
  dbCreateTransaction object to verify that it is in the Normal state. If so
  then the management shall GET dbMakeID to obtain a transaction ID to use,
  then SET dbCreateTransaction to startCmd and dbTransactionID to the value
  just received. If the response to the SET operation is 'noError' then the
  management station has started a transaction. If the response to the SET
  operation is 'genError' then the management station should read the
  dbCreateTransaction and dbTransactionID objects to ensure that the error
  was not due to a communications retry. If the dbCreateTransaction is in the
  Transaction state, and the dbTransactionID is the same value returned by
  the read of this object, then the management station is the owner of the
  transaction. If the dbTransactionID does not match the value originally
  returned by this object, then the management station is not the owner of
  the transaction and must wait until the dbCreateTransaction object returns
  to the Normal state before attempting to start the transaction.

  <Informative> This object was deprecated in NTCIP 1201 v02

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.2.5"

::= { globalDBManagement 5 }
```

2.4.6 Database Verify Status Parameter

```
dbVerifyStatus OBJECT-TYPE
SYNTAX     INTEGER { notDone (1),
                     doneWithError (2),
                     doneWithNoError (3) }
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object indicates the current status of verify
  (consistency checking) processing. The value of this object is only
  meaningful when the dbCreateTransaction object is in the Verify or Done
  state.

  <Supplanted by> ISO26048-1-Transaction.fdTransactionStatus

  <Informative> The V2 object adds support for error codes related to
  Implementing the database after consistency checks have passed.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.2.6"

::= { globalDBManagement 6 }
```

2.4.7 Database Verify Error Parameter

```
dbVerifyError OBJECT-TYPE
SYNTAX     OCTET STRING (SIZE (0..255))
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object contains a textual description of or a reference
  to an error that was found by the verify (consistency checking) processing.
  The value of this object is only meaningful when the dbCreateTransaction
  object is in the Done state and the dbVerifyStatus object is in the
  doneWithError state.
```

```
  <Supplanted by> ISO26048-1-Transaction.fdTransactionError

  <Informative> The V2 object revises the syntax so that it can be
  automatically recognized as a multi-lingual text string (i.e.,
  SnmpAdminString).

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.2.7"

::= { globalDBManagement 7 }
```

2.5 GLOBAL TIME MANAGEMENT NODE

```
globalTimeManagement OBJECT-IDENTITY
STATUS     deprecated
DESCRIPTION
  "This node is an identifier used to organize all objects for support of
  time-related functions that are common to most device types.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3"

::= { global 3 }
```

2.5.1 Global Time Parameter

```
globalTime OBJECT-TYPE
SYNTAX     Unsigned32
UNITS      "seconds"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The number of seconds since the epoch of 00:00:00 (midnight)
  January 1, 1970 UTC (a.k.a. Zulu or GMT).

  <Superseded by> ISO26048-1-Clock.fdClockUtcDate & ISO26048-1-
  Clock.fdClockUtcTime (ISO 26048-1)

  <Informative> The original specification defined this parameter using a
  Counter; however, by convention, Counter objects are not supposed to be
  writable in SNMPv1 and SNMPv3 prohibits writable Counter objects.
  Therefore, when presenting this object in SNMPv3, it is encoded as an
  Unsigned32 rather than a Counter32; proxy agents will need to address this
  encoding change within their implementation. In addition, the object has a
  potential rollover problem in 2038 and there are NTCIP needs to support
  millisecond-level time information. The superseding objects address all of
  these issues.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.1"

DEFVAL     { 0 }
::= { globalTimeManagement 1 }
```

2.5.2 Global Daylight Saving Parameter

```
globalDaylightSaving OBJECT-TYPE
SYNTAX     INTEGER { other (1),
                     disableDST (2),
                     enableUSDST (3),
                     enableEuropeDST (4),
                     enableAustraliaDST (5),
                     enableTasmaniaDST (6),
                     enableEgyptDST (7),
                     enableNamibiaDST (8),
                     enableIraqDST (9),
```

```
                    enableMangoliaDST (10),
                    enableIranDST (11),
                    enableFijiDST (12),
                    enableNewZealandDST (13),
                    enableTongaDST (14),
                    enableCubaDST (15),
                    enableBrazilDST (16),
                    enableChileDST (17),
                    enableFalklandsDST (18),
                    enableParaguayDST (19),
                    enableDaylightSavingNode (20) }
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object specifies whether the daylight saving time (DST)
  is enabled, disabled or some other form of DST is active.

  <Format>
  other - DST adjustments by a mechanism not defined within this standard.
  disableDST - DST clock adjustments shall NOT occur.
  enableUSDST - DST shall begin the first Sunday in April and shall end the
  last Sunday of October. All changes of time occur at 2:00 AM. (This is the
  pre-2007 DST settings for the USA.)
  enableEuropeDST - DST shall start the last Sunday of March at 2:00 AM and
  ends the last Sunday of October at 3:00 AM.
  enableAustraliaDST - DST shall start the last Sunday in October at 2:00 AM
  and ends the last Sunday in March at 2:00 AM.
  enableTasmaniaDST - DST shall start the first Sunday in October at 2 a.m.
  and ends the last Sunday in March at 3 a.m.
  enableEgyptDST: DST shall start the last Friday in April and end the last
  Thursday in September.
  enableNamibiaDST: DST shall start the first Sunday in September and end the
  first Sunday in April.
  enableIraqDST: DST shall start on April 1 and end on October 1.
  enableMongoliaDST: DST shall start the last Sunday in March and end the
  last Sunday in September.
  enableIranDST: DST shall start the first day of Farvardin and end the first
  day of Mehr
  enableFijiDST: DST shall start the first Sunday in November and end the
  last Sunday in February.
  enableNewZealandDST: DST shall start the first Sunday in October and end
  the first Sunday on or after March 5th.
  enableTongaDST: DST shall start the first Saturday in October and end the
  first Saturday on or after April 15th.
  enableCubaDST: DST shall start April 1st and end last Sunday in October.
  enableBrazilDST: DST shall start the first Sunday in October and end the
  last Sunday in February.
  enableChileDST: DST shall start the first Sunday on or after October 9th
  and end the first Sunday on or after March 9th.
  enableFalklandsDST: DST shall start the first Sunday on or after September
  8th and end the first Sunday on or after April 8th.
  enableParaguayDST: DST shall start the first Sunday in October and end the
  last Saturday in February.
  enableDaylightSavingNode: DST operation is controlled by objects located
  under the daylightSavingNode.

  <Superseded by> DST table
```



```
  <Informative> This object was deprecated in NTCIP 1201 v03. This object is
  maintained for backward compatibility and it is envisioned that only the
  following values are supported with all other values are deprecated:
  - other (1),
  - disableDST (2),
  - enableDaylightSavingNode (20)

  Users should ensure that the values of globalDaylightSaving and the entries
  in the new DST Table are coordinated. The globalDaylightSaving object is
  intended to be used to enable and disable DST and should not be set to the
  value '20', enableDaylightSavingNode until after the dstTable entries have
  been fully configured. Further, the globalDaylightSaving object supersedes
  the settings in the DST Table.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.2"

REFERENCE  "NEMA TS 2 Clause 3.8.2;
http://fatty.law.cornell.edu/uscode/15/260a.html;
http://webexhibits.org/daylightsaving/g.html"
DEFVAL     { enableDaylightSavingNode }
::= { globalTimeManagement 2 }
```

2.6 TIMEBASE EVENT SCHEDULER NODE

```
timebase OBJECT-IDENTITY
STATUS     deprecated
DESCRIPTION
  "This node is an identifier used to organize the main objects for event
  scheduling. Device type-specific objects (tables) pointed to are defined
  within the appropriate MIB.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3"

::= { globalTimeManagement 3 }
```

2.6.1 Maximum Number of Time Base Schedule Entries Parameter

```
maxTimeBaseScheduleEntries OBJECT-TYPE
SYNTAX     Integer32(1..65535)
UNITS      "TimeBaseScheduleEntry"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The value of this object specifies the maximum number of
  different entries supported by the device as shown by the number of rows in
  the timeBaseScheduleTable.

  <Informative> The timeBaseScheduleTable has been replaced with a dynamic
  table, which does not require an object indicating the maximum number of
  rows.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.1"

::= { timebase 1 }
```

2.6.2 Time Base Schedule Table

```
timeBaseScheduleTable OBJECT-TYPE
SYNTAX     SEQUENCE OF TimeBaseScheduleEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
```

```
  "<Definition> A table containing the time base schedule parameters for the
  device. The number of rows in this table shall be equal to the
  maxTimeBaseScheduleEntries object. The table references the appropriate day
  plan for the device. The plan is determined by comparing the current month
  (MONTH), day of week (DOW) and date of month (DOM) to the appropriate
  fields. The settings for MONTH, DOW and DOM are connected with a logical
  AND. To determine which timebased event to select, determine the event
  which has the most specific date specified. Select the more specific event
  based on their MONTH settings; if the same, select the most specific DOM;
  if that is still the same, select the most specific DOW; if still the same,
  the first occurrence within the time base event table shall be selected.
  'More specific' means the least number of bits set within an object. All
  entries in Time Base Schedule Table are expressed in local time and date. A
  row in the table may be deactivated by setting the Month, Day, Date, or
  DayPlan parameters to zero (0)

  <Table Type> static

  <Supplanted by> DAY-PLAN-MIB.fdDayPlanScheduleTable (ISO 26048-1)

  <Informative> The original timeBaseScheuleDate object was defined as
  INTEGER (0..4294967295); however, by convention, SNMPv1 does not allow
  unsigned 32-bit integers and SNMPv3 prohibits them. The revise table
  addresses this issue and is also treated using trigger logic so that it can
  be used to activate a day plan (as originally envisioned) and/or to call
  other actions (e.g., creating a log entry).

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.2"
::= { timebase 2 }

timeBaseScheduleEntry OBJECT-TYPE
SYNTAX     TimeBaseScheduleEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> Event Parameters for the time based schedule programming of
  the device.

  <Superseded by> ISO26048-1-DayPlan.fdDayPlanScheduleEntry (ISO 26048-1)

  <Informative> The replacement object extends the row to support a
  description and supports full SNMPv3 row management.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.2.1"
INDEX      { timeBaseScheduleNumber }
::= { timeBaseScheduleTable 1 }

TimeBaseScheduleEntry ::= SEQUENCE {
        timeBaseScheduleNumber  Integer32,
        timeBaseScheduleMonth   Integer32,
        timeBaseScheduleDay     Integer32,
        timeBaseScheduleDate    Integer32,
        timeBaseScheduleDayPlan Integer32}
```

2.6.2.1 Time Base Schedule Number Parameter

```
timeBaseScheduleNumber OBJECT-TYPE
SYNTAX     Integer32(1..65535 )
MAX-ACCESS read-only
```



```
STATUS     deprecated
DESCRIPTION
  "<Definition> The time base schedule number for objects in this row. The
  value of this object shall not exceed the value of the
  maxTimeBaseScheduleEntries object. The activation of a scheduled entry
  shall occur whenever allowed by all other objects within this table.

  <Supplanted by> ISO26048-1-DayPlan.fdDayPlanScheduleNumber (ISO 26048-1)

  <Informative> The replacement object extends the range to an Unsigned32

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.2.1.1"

::= { timeBaseScheduleEntry 1 }
```

2.6.2.2 Time Base Schedule Month of Year Parameter

```
timeBaseScheduleMonth OBJECT-TYPE
SYNTAX     Integer32(0..65535)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The Month(s) Of the Year that the schedule entry shall be
  allowed.

  <Format> Each bit represents a specific month. If the bit is set to one
  (1), then the scheduled entry shall be allowed during the associated month.
  If the bit is set to zero (0), then the scheduled entry shall not be
  allowed during the associated month. The bits are defined as:


  Bit  Month of Year

  0    Reserved

  1    January

  2    February

  3    March

  4    April

  5    May

  6    June

  7    July

  8    August

  9    September

  10  October

  11  November

  12  December

  13 - 15 Reserved


  Thus, a value of six (6) would indicate that the entry would only be
  allowed during the months of January and February. A value of zero (0)
  shall indicate that this row has been disabled.
```

```
  <Supplanted by> ISO26048-1-DayPlan.fdDayPlanScheduleMonth (ISO 26048-1)

  <Informative> The replacement object is defined using the BITS structure.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.2.1.2"

::= { timeBaseScheduleEntry 2 }
```

2.6.2.3 Time Base Schedule Day of Week Parameter

```
timeBaseScheduleDay OBJECT-TYPE
SYNTAX     Integer32(0..255)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The Day(s) Of Week that the schedule entry shall be allowed.

  <Format> Each bit represents a specific day of the week. If the bit is set
  to one (1), then the scheduled entry shall be allowed during the associated
  DOW. If the bit is set to zero (0), then the scheduled entry shall not be
  allowed during the associated DOW. The bits are defined as:


  Bit  Day of Week

  0     Reserved ('Holiday', not defined by this standard)

  1     Sunday

  2     Monday

  3     Tuesday

  4     Wednesday

  5     Thursday

  6     Friday

  7     Saturday


  Thus, a value of six (6) would indicate that the entry would only be
  allowed on Sundays and Mondays. A value of zero (0) shall indicate that
  this row has been disabled.


  <Supplanted by> ISO26048-1-DayPlan.fdDayPlanScheduleDayOfWeek (ISO 26048-1)

  <Informative> The replacement object is defined using the BITS structure

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.2.1.3"

::= { timeBaseScheduleEntry 3 }
```

2.6.2.4 Time Base Schedule Date Parameter

```
timeBaseScheduleDate OBJECT-TYPE
SYNTAX     Integer32
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The Day(s) Of a Month that the schedule entry shall be
  allowed.

  <Format> Each bit represents a specific date of the month. If the bit is
  set to one (1), then the scheduled entry shall be allowed during the
```



```
  associated date. If the bit is set to zero (0), then the scheduled entry
  shall not be allowed during the associated date. The bits are defined as:


  Bit  Day Number

  0    Reserved

  1    Day 1

  2    Day 2

  ||

  31  Day 31


  Thus, a value of six (6) would indicate that the entry would only be
  allowed on the first and second of the allowed months. A value of zero (0)
  shall indicate that this row has been disabled.


  <Supplanted by> DAY-PLAN- MIB.fdDayPlanScheduleDayOfMonth (ISO 26048-1)

  <Informative> The original specification defined this parameter using
  INTEGER (0..4294967295); however, by convention, INTEGERs are limited to
  the range (- 2147483648..2147483647) in SNMPv1 and SNMPv3 enforces this
  limitation. Therefore, when presenting this object in SNMPv3, it is encoded
  as an Unsigned32 rather than an INTEGER (0..4294967295); proxy agents will
  need to address this encoding change within their implementation. The
  replacement object in the DAY-PLAN-MIB implements this concept using the
  BITS structure.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.2.1.4"

::= { timeBaseScheduleEntry 4 }
```

2.6.2.5 Time Base Schedule Day Plan Parameter

```
timeBaseScheduleDayPlan OBJECT-TYPE
SYNTAX     Integer32(0..255)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object specifies what Plan number shall be associated
  with this timeBaseScheduleDayPlan object.

  <Format> The value of this object cannot exceed the value of the
  maxDayPlans object. A value of zero (0) shall indicate that this row has
  been disabled.

  <Supplanted by> ISO26048-1-DayPlan.fdDayPlanScheduleDayPlan (ISO 26048-1)

  <Informative> The replacement object extends the range to Unsigned32

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.2.1.5"

::= { timeBaseScheduleEntry 5 }
```

2.6.3 Maximum Number of Day Plans-Parameter

```
maxDayPlans OBJECT-TYPE
SYNTAX     Integer32(1..255)
UNITS      "DayPlan"
MAX-ACCESS read-only
```

```
STATUS     deprecated
DESCRIPTION
  "<Definition>The value of this object specifies the maximum, fixed number
  of different timebased Day Plans supported by the device. The value of this
  object represents the number of day plans (primary key into the table)
  available in the timeBaseDayPlanTable.

  <Informative> The timeBaseDayPlanTable has been replaced with a dynamic
  table, which does not require an object indicating the maximum number of
  rows.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.3"

::= { timebase 3 }
```

2.6.4 Maximum Number of Day Plan Events-Parameter

```
maxDayPlanEvents OBJECT-TYPE
SYNTAX     Integer32(1..255)
UNITS      "DayPlanEvent"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The value of this object specifies the fixed number of
  different timebased Day Plan Events within each Day Plan supported by the
  device. The value of this object represents the number of rows (secondary
  key into the table) available within each of the day plans that are
  available in the timeBaseDayPlanTable. All day plans shall have the same
  number of day plan events available for use.

  <Informative> The timeBaseDayPlanTable has been replaced with a dynamic
  table, which does not require an object indicating the maximum number of
  rows.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.4"

::= { timebase 4 }
```

2.6.5 Day Plan Table

```
timeBaseDayPlanTable OBJECT-TYPE
SYNTAX     SEQUENCE OF TimeBaseDayPlanEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>A table containing day plan numbers, the times when to
  implement them and the associated actions. The number of rows in this table
  shall be equal to the product of the maxDayPlans object and the
  maxDayPlanEvents object. The dayPlanNumbers within this table shall begin
  with day plan number 1 and increment by one to the maxDayPlans. The
  dayPlanEventNumbers within this table shall begin with day plan event
  number 1 and increment by one to the maxDayPlanEvents.

  This table is always used in association with device-type specific objects
  specifying device-type specific actions such as activating a message on a
  VMS sign or initiating a pattern for a signal controller. A device MIB that
  defines an action table should define the relative priority of the action
  table as compared to the priority of system and other commands. The device-
  type specific action is only initiated when (1) the specific DayPlan has
  been activated, (2) the scheduler has sufficient priority to override the
  current operation of the device, and (3) at the indicated time.
```

```
  After a power recovery, or after a change to any object that affects
  controlerLocalTime, the operational mode called for by the scheduler shall
  be per the last event that would have been called for by the currently
  defined schedule; the logic searches for all events that may have occurred
  for at least the previous 24 hours.

  <Table Type> static

  <Supplanted by> ISO26048-1-DayPlan.fdDayPlanTable & ISO26048-1-
  DayPlan.fdDayPlanTriggerTable (ISO 26048-1)

  <Informative> The replacement tables are designed to trigger an action,
  which can include activating a day plan (as originally envisioned by this
  object) and/or to call other actions (e.g., creating a log entry).

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.5"

::= { timebase 5 }

timeBaseDayPlanEntry OBJECT-TYPE
SYNTAX     TimeBaseDayPlanEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>Day plan parameters for the time based schedule programming of
  a device.

  <Supplanted by> ISO26048-1-DayPlan.fdDayPlanEntry & ISO26048-1-
  DayPlan.fdDayPlanTriggerEntry

  <Informative> The replacement objects extend the row to support a
  description of the day plan and supports full SNMPv3 row management.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.5.1"

INDEX      { dayPlanNumber, dayPlanEventNumber }
::= { timeBaseDayPlanTable 1 }

TimeBaseDayPlanEntry ::= SEQUENCE {
        dayPlanNumber          INTEGER,
        dayPlanEventNumber     INTEGER,
        dayPlanHour            INTEGER,
        dayPlanMinute          INTEGER,
        dayPlanActionNumberOID VariablePointer}
```

2.6.5.1 Day Plan Number

```
dayPlanNumber OBJECT-TYPE
SYNTAX     Integer32(1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object specifies the day plan number for objects in this
  row. The value shall not exceed the value of the maxDayPlans object. Day
  plan numbers are used in the TimeBase Event Table to specify day plan
  numbers to be implemented on specific days of the year or as part of the
  week plans.

  <Supplanted by> ISO26048-1-DayPlan.fdDayPlanNumber (ISO 26048-1)

  <Informative> The replacement object extends the range to an Unsigned32

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.5.1.1"
```

```
::= { timeBaseDayPlanEntry 1 }
```

2.6.5.2 Day Plan Event Number

```
dayPlanEventNumber OBJECT-TYPE
SYNTAX     Integer32(1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object identifies day plan event number(s) to be
  scheduled on a specific day plan number. Several different events can be
  scheduled to take place during a day, and each of these events is one entry
  or row within a specified day plan number. The total number of events for
  one day plan shall not exceed the value of the maxDayPlanEvents object. If
  multiple non-conflicting events are scheduled to occur at the same time,
  they shall be logically executed in order of their dayPlanEventNumber with
  the lowest number occurring first. An implementation shall omit lower
  number actions that are in conflict with higher number actions at the same
  time.

  <Supplanted by> ISO26048-1-DayPlan.fdDayPlanTriggerTime (ISO 26048-1)

  <Informative> The replacement object (and second index into the replacement
  table) is the millisecond-based time object.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.5.1.2"

::= { timeBaseDayPlanEntry 2 }
```

2.6.5.3 Day Plan Hour Parameter

```
dayPlanHour OBJECT-TYPE
SYNTAX     Integer32(0..23)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The Hour of day, as measured by the controllerLocalTime
  object, that the associated event shall become active.

  <Supplanted by> ISO26048-1-DayPlan.fdDayPlanTriggerTime (ISO 26048-1)

  <Informative> The replacement object includes the complete daily timestamp
  and is used as an index to the replacement table.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.5.1.3"

DEFVAL     { 0 }
::= { timeBaseDayPlanEntry 3 }
```

2.6.5.4 Day Plan Minute Parameter

```
dayPlanMinute OBJECT-TYPE
SYNTAX     Integer32(0..59)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The Minute of the hour (defined in the dayPlanHour), as
  measured by the controllerLocalTime object, that the associated event shall
  become active.

  <Supplanted by> ISO26048-1-DayPlan.fdDayPlanTriggerTime (ISO 26048-1)

  <Informative> The replacement object includes the complete daily timestamp
  and is used as an index to the replacement table.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.5.1.4"
```

```
DEFVAL     { 0 }
::= { timeBaseDayPlanEntry 4 }
```

2.6.5.5 Day Plan Action Number OID Parameter

```
dayPlanActionNumberOID OBJECT-TYPE
SYNTAX     VariablePointer
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object provides a reference to the device-type specific
  action that shall be executed. The object shall reference the action by its
  associated object identifier, including its instance (i.e., the full OID of
  the scalar or columnar object). Only objects whose description field
  explicitly states that they may be called by the action table may be
  referenced. If a management system attempts to set this value to any other
  object identifier, the device shall respond with a genErr.

  Any object allowing the action table to reference it shall define precisely
  what action takes place when it is activated, and whether the action is
  transitionary or continuous until deactivated. The object shall also define
  what, if any, restrictions may be placed on other operations the device may
  be able to perform.

  If the action to be performed is defined by a row of a table, one of the
  index columns should be identified as the explicit object that is
  referenced.

  <Supplanted by> ISO26048-1-DayPlan.fdDayPlanTriggerActionGroup

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.5.1.5"

DEFVAL     { zeroDotZero }
::= { timeBaseDayPlanEntry 5 }
```

2.6.6 Day Plan Status Parameter

```
dayPlanStatus OBJECT-TYPE
SYNTAX     Integer32(0..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>This object indicates the current value of the active
  dayPlanNumber-object.

  <Format> A value of zero (0) indicates that there is no dayPlanNumber that
  is currently active.

  <Supplanted by> ISO26048-1-DayPlan.fdDayPlanSchedulerCurrentDayPlan (ISO
  26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.6"

::= { timebase 6 }
```

2.6.7 Schedule Status Parameter

```
timeBaseScheduleTableStatus OBJECT-TYPE
SYNTAX     Integer32(0..65535)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>This object indicates the number of the TimeBaseSchedule which
  is currently selected by the scheduling logic; the device may or may not be
```

```
  using the selected schedule. The value of zero (0) indicates that there is
  no timeBaseScheduleNumber that is currently selected.

  <Supplanted by> ISO26048-1-DayPlan.fdDayPlanSchedulerSelectedRule (ISO
  26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.3.7"

::= { timebase 7 }
```

2.6.8 Global Local Time Differential Parameter

```
globalLocalTimeDifferential OBJECT-TYPE
SYNTAX     Integer32(-43200..43200)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "Indicates the number of seconds offset between local time and GMT.
  Positive values indicate local times in the Eastern Hemisphere up to the
  International Date Line and negative values indicate local times in the
  Western Hemisphere back to the International Date Line. If one of the
  daylight saving times is activated, this value will change automatically at
  the referenced time. For example, Central Standard Time (CST) is -21600 and
  Central Daylight Time (CDT) is -18000.

  <Supplanted by> controllerStandardTimeZone

  <Informative> This object was deprecated in NTCIP 1202 v02 to prevent
  confusion when setting time near a DST event.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.4"

::= { globalTimeManagement 4 }
```

2.6.9 Standard Time Zone Parameter

```
controllerStandardTimeZone OBJECT-TYPE
SYNTAX     Integer32(-43200..43200)
UNITS      "seconds"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> Indicates the number of seconds offset between local Standard
  Time and GMT. Positive values indicate local times in the Eastern
  Hemisphere up to the International Date Line and negative values indicate
  local times in the Western Hemisphere back to the International Date Line.
  This value does not change in response to a DST event.

  <Superseded by> ISO26048-1-Clock.fdClockLocalStandardTimeZone (ISO 26048-1)

  <Informative> The replacement object extends the range to (-46800..46800)
  to support all defined time zones (i.e., +/- 13 hours).

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.5"

DEFVAL     { 0 }
::= { globalTimeManagement 5 }
```

2.6.10 Local Time Parameter

```
controllerLocalTime OBJECT-TYPE
SYNTAX     Unsigned32
UNITS      "seconds"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
```



```
  "<Definition> The current local time expressed in seconds since 00:00:00
  (midnight) January 1, 1970 of the same time offset. This value changes by
  3600 seconds in response to a DST event.

  <Superseded by> ISO26048-1-Clock.fdClockLocalDate & ISO26048-1-
  Clock.fdClockLocalTime (ISO 26048-1)

  <Informative> The original specification defined this parameter using a
  Counter; however, by convention, Counter objects are supposed to follow the
  defined semantics for a counter in SNMPv1 and SNMPv3 requires this
  compliance. This object fails to meet this standard because it is not
  always increasing. Therefore, when presenting this object in SNMPv3, it is
  encoded as an Unsigned32 rather than a Counter32; proxy agents will need to
  address this encoding change within their implementation.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.6"

::= { globalTimeManagement 6 }
```

2.7 DAYLIGHT SAVING TIME (DST) NODE

```
daylightSavingNode OBJECT-IDENTITY
STATUS     deprecated
DESCRIPTION
  "<Definition> This node is an identifier used to organize all objects for
  support of defining DST. This function is common to most device types. The
  The objects under this node only affect device operation when
  globalDaylightSaving = enableDaylightSavingNode (20). See Annex A.2.2 for
  examples.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.7"

::= { globalTimeManagement 7 }
```

2.7.1 Maximum Daylight Saving Time (DST) Table Entries Parameter

```
maxDaylightSavingEntries OBJECT-TYPE
SYNTAX     Integer32(1..100)
UNITS      "entries"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The maximum number of entries (begin and end date pairs) that
  the DST Table can contain within the device. As of July 2007, devices used
  within the United States only require 1 entry when using the generic begin
  and end date method.

  <Informative>It is expected that, for devices using the absolute date
  method, the device would need to support at least 1 entry per year
  programmed.

  For multi-step DST transitions, a minimum of 2 rows are required (see Annex
  A.2.1 Figure 6).

  More than one row may be required if absolute date method (see Section
  2.4.8.2.2) is used for more than one year, or if more than one time change
  is implemented in a given year.

  <Superseded by> ISO26048-1-Clock.fdClockDstMaxEntries (ISO 26048-1)

  <Informative> The replacement object has a range of Unsigned32

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.7.1"
```

```
::= { daylightSavingNode 1 }
```

2.7.2 Daylight Saving Time (DST) Table Parameter

```
dstTable OBJECT-TYPE
SYNTAX     SEQUENCE OF DstEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> A table containing DST Begin and End dates. The table is
  useful for agencies with multiple daylight saving time incremental steps
  per year. The number of rows in this table is equal to the
  maxDaylightSavingEntries object.

  <Table Type> static

  <Superseded by> ISO26048-1-Clock.fdClockDstTable (ISO 26048-1)

  <Informative> The original table contained two SecondsToTransition objects
  that have an invalid syntax for SNMPv3.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.7.2"

::= { daylightSavingNode 2 }

dstEntry OBJECT-TYPE
SYNTAX     DstEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> The DST Begin and End dates parameters.

  <Superseded by> ISO26048-1-Clock.fdClockDstEntry (ISO 26048-1)

  <Informative> The replacement object extends the row to support a status
  object for each row (showing whether the plan is activated) as well as a
  RowStatus object to disable defined rows.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.7.2.1"

INDEX      { dstEntryNumber }
::= { dstTable 1 }

DstEntry ::= SEQUENCE {
        dstEntryNumber              INTEGER,
        dstBeginMonth               INTEGER,
        dstBeginOccurrences         INTEGER,
        dstBeginDayOfWeek           INTEGER,
        dstBeginDayOfMonth          INTEGER,
        dstBeginSecondsToTransition INTEGER,
        dstEndMonth                 INTEGER,
        dstEndOccurrences           INTEGER,
        dstEndDayOfWeek             INTEGER,
        dstEndDayOfMonth            INTEGER,
        dstEndSecondsToTransition   INTEGER,
        dstSecondsToAdjust          INTEGER}
```

2.7.2.1 Daylight Saving Time (DST) Entry Number Parameter

```
dstEntryNumber OBJECT-TYPE
SYNTAX     Integer32(1..100)
MAX-ACCESS read-only
```



```
STATUS     deprecated
DESCRIPTION
  "<Definition> The entry number for the DST objects in this row. This value
  shall not exceed the maxDaylightSavingEntries object value.

  <Superseded by> ISO26048-1-Clock.fdClockDstIndex (ISO 26048-1)

  <Informative> The replacement object has a range of ITSPositive8

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.7.2.1.1"

::= { dstEntry 1 }
```

2.7.2.2 Daylight Saving Time (DST) Beginning Month Parameter

```
dstBeginMonth OBJECT-TYPE
SYNTAX     INTEGER { january (1),
                     february (2),
                     march (3),
                     april (4),
                     may (5),
                     june (6),
                     july (7),
                     august (8),
                     september (9),
                     october (10),
                     november (11),
                     december (12),
                     absolute (13),
                     disabled (14) }
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The month during which daylight saving time (DST) begins.

  <Format> An entry of 'absolute' means that dstBeginSecondsToTransition
  defines an absolute time to begin DST relative to midnight January 1, 1970.
  In this case, any value indicated in the dstEndMonth, dstBeginOccurences,
  dstBeginDayOfWeek, dstBeginDayOfMonth, dstEndOccurances, dstEndDayOfWeek,
  and dstEndDayOfMonth objects are irrelevant, and the
  dstEndSecondsToTransition object defines an absolute time to end DST
  relative to midnight January 1, 1970.

  If the daylightSavingNode is enabled (i.e. globalDaylightSaving =
  enableDaylightSavingNode), and the value of this object is disabled(14),
  then the values in the remaining objects in this row of the dstTable are
  irrelevant and therefore ignored by the device.

  <Superseded by> ISO26048-1-Clock.fdClockDstBeginMonth (ISO 26048-1)

  <Informative> The replacement object does not support absolute mode and
  disabling a row is achieved through the RowStatus object.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.7.2.1.2"

DEFVAL     { march }
::= { dstEntry 2 }
```

2.7.2.3 Daylight Saving Time (DST) Beginning Occurrence Parameter

```
dstBeginOccurrences OBJECT-TYPE
SYNTAX     INTEGER { first (1),
                     second (2),
                     third (3),
```

```
                    fourth (4),
                    last (5),
                    secondLast (6),
                    thirdLast (7),
                    fourthLast (8),
                    specificDayOfMonth (9) }
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>For values of 1-4, the number of occurrences of the specific
  day of week that shall occur on or after dstBeginDayOfMonth until the
  daylight saving transition shall take place.

  For values of 5-8, the number of occurrences of the specific day of week
  that shall occur on or before dstBeginDayOfMonth until the daylight saving
  transition shall take place.

  For value = 9, dstBeginDayOfMonth defines the specific day of the month
  that the DST transition occurs regardless of value in dstBeginDayOfWeek
  object.

  <Superseded by> ISO26048-1-Clock.fdClockDstBeginOccurrences (ISO 26048-1)

  <Informative> To specify the last occurrence of a specified day of the
  month, simply specify the last occurrence of the specified day of the week
  on or before the last day of the month (e.g., 31).
  The replacement object has an identical range.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.7.2.1.3"

DEFVAL     { second }
::= { dstEntry 3 }
```

2.7.2.4 Daylight Saving Time (DST) Beginning Day of Week Parameter

```
dstBeginDayOfWeek OBJECT-TYPE
SYNTAX     INTEGER { sunday (1),
                     monday (2),
                     tuesday (3),
                     wednesday (4),
                     thursday (5),
                     friday (6),
                     saturday (7) }
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The Day of the week on which daylight saving time
  (DST)begins. This object shall only apply if dstBeginOccurrences = 1-8.

  <Superseded by> ISO26048-1-Clock.fdClockDstBeginDayOfWeek (ISO 26048-1)

  <Informative> The replacement object shifts Sunday to the end of the
  enumeration (7) and all other days up one to conform to international
  conventions in other standards.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.7.2.1.4"

DEFVAL     { sunday }
::= { dstEntry 4 }
```

2.7.2.5 Daylight Saving Time (DST) Beginning Day of Month Parameter

```
dstBeginDayOfMonth OBJECT-TYPE
SYNTAX     Integer32 (1..31)
```



```
UNITS      "day of month"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> If dstBeginOccurrences = 1-8: The day of the month from which
  to begin counting occurrences of a specific day of the week (forward for
  values 1-4, and backwards for values 5-8).
  If dstBeginOccurrences = 9: The specific day of the month on which the
  transition occurs.

  <Superseded by> ISO26048-1-Clock.fdClockDstBeginDayOfMonth (ISO 26048-1)

  <Informative> The replacement object has an identical range.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.7.2.1.5"

DEFVAL     { 1 }
::= { dstEntry 5 }
```

2.7.2.6 Daylight Saving Time (DST) Beginning Seconds to Transition Parameter

```
dstBeginSecondsToTransition OBJECT-TYPE
SYNTAX     Integer32
UNITS      "seconds"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> If dstBeginMonth = absolute, then this object defines when
  DST begins based on the seconds from midnight January 1, 1970 (UTC/GMT).

  If dstBeginMonth = 1-12 (January to December), then this object defines the
  time when DST begins in seconds past midnight relative to local time (see
  the controllerLocalTime object).

  <Superseded by> ISO26048-1-Clock.fdClockDstBeginTime (ISO 26048-1)

  <Informative> A set of parameters that causes a day transition that crosses
  the midnight boundary may result in unexpected behavior.
  The original specification defined this parameter using INTEGER
  (0..4294967295); however, by convention, INTEGERs are limited to the range
  (-2147483648..2147483647) in SNMPv1 and SNMPv3 enforces this limitation.
  Therefore, when presenting this object in SNMPv3, it is encoded as an
  Unsigned32 rather than an INTEGER (0..4294967295); proxy agents will need
  to address this encoding change within their implementation.
  The replacement object is a daily timestamp to the millisecond and does not
  support an absolute time.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.7.2.1.6"

DEFVAL     { 7200 }
::= { dstEntry 6 }
```

2.7.2.7 Daylight Saving Time (DST) Ending Month Parameter

```
dstEndMonth OBJECT-TYPE
SYNTAX     INTEGER { january (1),
                     february (2),
                     march (3),
                     april (4),
                     may (5),
                     june (6),
                     july (7),
                     august (8),
```

```
                    september (9),
                    october (10),
                    november (11),
                    december (12) }
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The month during which daylight saving time (DST) ends. If
  the value of dstBeginMonth object = 'absolute' or 'disabled', then the
  agent shall ignore the value of this object. Otherwise, the value of this
  object is valid.

  <Superseded by> ISO26048-1-Clock.fdClockDstEndMonth (ISO 26048-1)

  <Informative> The replacement object has an identical syntax.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.7.2.1.7"

DEFVAL     { november }
::= { dstEntry 7 }
```

2.7.2.8 Daylight Saving Time (DST) Ending Occurrences Parameter

```
dstEndOccurrences OBJECT-TYPE
SYNTAX     INTEGER { first (1),
                     second (2),
                     third (3),
                     fourth (4),
                     last (5),
                     secondLast (6),
                     thirdLast (7),
                     fourthLast (8),
                     specificDayOfMonth (9) }
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>For values of 1-4, the number of occurrences of the specific
  day of week that shall occur on or after dstEndDayOfMonth until the
  daylight saving transition shall take place.

  For values of 5-8, the number of occurrences of the specific day of week
  that shall occur on or before dstEndDayOfMonth until the daylight saving
  transition shall take place.

  For value = 9, dstEndDayOfMonth defines the specific day of the month that
  the DST transition occurs regardless of value in dstEndDayOfWeek object.

  <Superseded by> ISO26048-1-Clock.fdClockDstEndOccurrences (ISO 26048-1)

  <Informative> To specify the last occurrence of a specified day of the
  month, simply specify the last occurrence of the specified day of the week
  on or before the last day of the month (e.g. 31).
  The replacement object has an identical range.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.7.2.1.8"

DEFVAL     { first }
::= { dstEntry 8 }
```

2.7.2.9 Daylight Saving Time (DST) Ending Day of Week Parameter

```
dstEndDayOfWeek OBJECT-TYPE
SYNTAX     INTEGER { sunday (1),
                     monday (2),
```



```
                    tuesday (3),
                    wednesday (4),
                    thursday (5),
                    friday (6),
                    saturday (7) }
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The Day of the week on which daylight saving time (DST) ends.
  This object shall only apply if dstEndOccurrences = 1-8.

  <Superseded by> ISO26048-1-Clock.fdClockDstEndDayOfWeek (ISO 26048-1)

  <Informative> The replacement object shifts Sunday to the end of the
  enumeration (7) and all other days up one to conform to international
  conventions in other standards.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.7.2.1.9"

DEFVAL     { sunday }
::= { dstEntry 9 }
```

2.7.2.10 Daylight Saving Time (DST) Ending Day of Month Parameter

```
dstEndDayOfMonth OBJECT-TYPE
SYNTAX     Integer32(1..31)
UNITS      "day of month"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> If dstEndOccurrences = 1-8: The day of the month from which
  to begin counting occurrences of a specific day of the week (forward for
  values 1-4, and backwards for values 5-8).
  If dstEndOccurrences = 9: The specific day of the month on which the
  transition occurs.

  <Superseded by> ISO26048-1-Clock.fdClockDstEndDayOfMonth (ISO 26048-1)

  <Informative> The replacement object has an identical range.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.7.2.1.10"

DEFVAL     { 1 }
::= { dstEntry 10 }
```

2.7.2.11 Daylight Saving Time (DST) Ending Seconds to Transition Parameter

```
dstEndSecondsToTransition OBJECT-TYPE
SYNTAX     Integer32
UNITS      "seconds"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> If dstBeginMonth = absolute, then this object defines when
  DST ends based on the seconds from midnight January 1, 1970 (UTC/GMT).

  If dstBeginMonth = 1-12 (January to December), then this object defines the
  time when DST ends in seconds past midnight relative to local time (see the
  controllerLocalTime object).

  <Superseded by> ISO26048-1-Clock.fdClockDstEndTime (ISO 26048-1)

  <Informative> A set of parameters that causes a day transition that crosses
  the midnight boundary may result in unexpected behavior.
```

```
  The original specification defined this parameter using INTEGER
  (0..4294967295); however, by convention, INTEGERs are limited to the range
  (-2147483648..2147483647) in SNMPv1 and SNMPv3 enforces this limitation.
  Therefore, when presenting this object in SNMPv3, it is encoded as an
  Unsigned32 rather than an INTEGER (0..4294967295); proxy agents will need
  to address this encoding change within their implementation.
  The replacement object is a daily timestamp to the millisecond and does not
  support an absolute time.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.7.2.1.11"

DEFVAL     { 7200 }
::= { dstEntry 11 }
```

2.7.2.12 Daylight Saving Time (DST) Seconds to Adjust Parameter

```
dstSecondsToAdjust OBJECT-TYPE
SYNTAX     Integer32 (0..21600)
UNITS      "seconds"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This is the absolute offset in seconds that will be added to
  the local time reference point to determine the local time when DST is in
  effect as specified by this row entry. Values of this object in adjacent
  rows, even if they overlap, are not cumulative. That is, the row with the
  latest dstBegin time, which has not terminated due to passing the dstEnd
  time, shall determine the setting of the local TOD clock; the
  dstSecondsToAdjust for the latest dstBegin governs the Local TOD clock
  settings.

  The maximum offset to adjust is 21600 seconds, an equivalent of 6 hours.

  <Superseded by> ISO26048-1-Clock.fdClockDstOffset (ISO 26048-1)

  <Informative> This object allows what may be considered an exception, in
  that it is possible and allowed to configure an adjustment backward past
  midnight. The replacement object uses an ITSInteger16 range.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.3.7.2.1.12"

DEFVAL     { 3600 }
::= { dstEntry 12 }
```

2.8 PMPP OBJECT NODE

```
profilesPMPP OBJECT-IDENTITY
STATUS     deprecated
DESCRIPTION
  "<Definition> This node is an identifier used to group all objects for
  support of the PMPP function that are common to all device types. The
  objects under this node are placed under the Protocols\Profiles\PMPP
  subtree within the NEMA node, but they have been listed here due to the
  lack of a separate document that lists these objects.

  <Informative> PMPP is a historic protocol designed for multi-drop serial
  communication networks with typical data capacities of 9600 bits per second
  or less. The overhead of X.509 security certificates and the availability
  of alternate communication technologies has resulted in the decision to no
  longer maintain this protocol and the deprecation of all of its management
  objects.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.2.3"
```

```
::= { profiles 3 }
```

2.8.1 Maximum HDLC Group Address Parameter

```
maxGroupAddresses OBJECT-TYPE
SYNTAX     Integer32(1..255)
UNITS      "addresses"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The maximum number of group addresses this device supports.
  This object indicates the maximum number of rows in the
  hdlcGroupAddressTable.

  <Informative> The PMPP protocol has been deprecated and there is no
  replacement object.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.2.3.1"

::= { profilesPMPP 1 }
```

2.8.2 HDLC Group Address Table

```
hdlcGroupAddressTable OBJECT-TYPE
SYNTAX     SEQUENCE OF HdlcGroupAddressEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> A table containing group addresses at which a device may
  receive frames.

  <Table Type> static

  <Informative> The PMPP protocol has been deprecated and there is no
  replacement object.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.2.3.2"

::= { profilesPMPP 2 }

hdlcGroupAddressEntry OBJECT-TYPE
SYNTAX     HdlcGroupAddressEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> An entry in the group address table that contains a device's
  data link layer group address at which it will accept frames.

  <Informative> The PMPP protocol has been deprecated and there is no
  replacement object.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.2.3.2.1"

INDEX      { hdlcGroupAddressIndex }
::= { hdlcGroupAddressTable 1 }

HdlcGroupAddressEntry ::= SEQUENCE {
        hdlcGroupAddressIndex  INTEGER,
        hdlcGroupAddress       INTEGER, -- deprecated previously
        hdlcGroupAddressNumber INTEGER}
```

2.8.2.1 HDLC Group Address Index Parameter

```
hdlcGroupAddressIndex OBJECT-TYPE
SYNTAX     Integer32(1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The index number for the group address in this row.

  <Informative> The PMPP protocol has been deprecated and there is no
  replacement object.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.2.3.2.1.1"

::= { hdlcGroupAddressEntry 1 }
```

2.8.2.2 HDLC Group Address Parameter

```
hdlcGroupAddress OBJECT-TYPE
SYNTAX     Integer32
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> A group address for the data link layer. For PMPP, the syntax
  is an 8 or 16 bit entry with the second low order bit set to a one
  indicating that this is a group address.

  <Informative> This object was deprecated in NTCIP 1201 v03. The PMPP
  protocol has been deprecated and there is no replacement object.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.2.3.2.1.2"

REFERENCE  "NEMA TS 3.3 Clause 3.3.3.1"
::= { hdlcGroupAddressEntry 2 }
```

2.8.2.3 HDLC Group Address Number Parameter

```
hdlcGroupAddressNumber OBJECT-TYPE
SYNTAX     Integer32(0..62)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> A group address number prior to any encoding for the data
  link layer. The address of 63 is reserved for the all stations address. The
  value of zero (0) shall disable this row of the table.

  <Informative> In PMPP all group addresses are encoded in one byte.
  The PMPP protocol has been deprecated and there is no replacement object.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.2.3.2.1.3"

REFERENCE  "NTCIP 2101"
DEFVAL     { 0 }
::= { hdlcGroupAddressEntry 3 }
END
```


Section 3 DEPRECATED AUXILIARY I/O V2 MIB

The text provided from Section 3.1 through the end of Section 3 (except the headings) constitutes the standard NTCIP1201-AuxIOv2 MIB.

**** All objects contained in this MIB are deprecated. ****

3.1 AUXILIARY I/O V2 HEADER

```
NTCIP1201-AuxIOv2 DEFINITIONS ::= BEGIN
IMPORTS
MODULE-IDENTITY, OBJECT-TYPE, OBJECT-IDENTITY, Integer32
                                                FROM SNMPv2-SMI
                                                  -- RFC 2578
   DisplayString
                                                FROM SNMPv2-TC
                                                  -- RFC 2579
   global
                                                FROM NTCIP1201-Global;

auxIOv2 MODULE-IDENTITY
LAST-UPDATED "20230701145436Z"
ORGANIZATION "NTCIP BSP2 WG"
CONTACT-INFO
  "name: NTCIP Coordinator
   email:  ntcip@nema.org
   postal: National Electrical Manufacturers Association
           1300 North 17th Street, Suite 1752
           Rosslyn, Virginia 22209-3801"
DESCRIPTION
  "<Definition> This MIB defines the SMIv2 representation of the AuxIOv2
  objects that were previously defined in NTCIP 1201 v03.

  Auxiliary I/O was originally defined in NTCIP 1203 v01 under the
  experimental node. NTCIP 1201 v02 moved the objects to the location defined
  by this MIB but retained the same object names. Experience demonstrated
  challenges in compiling MIB files with duplicate object names and as a
  result NTCIP 1201 v03 changed the names of objects while retaining the
  NTCIP 1201 v02 object identifiers. NTCIP 1201 v04 deprecated these objects
  in favor of the general purpose I/O design defined in ISO 26048-1.

  For those agents that may support these objects and those originally
  defined under the experimental node (see Section 2.10), the object
  definitions are treated as aliases such that a write to an object in one
  group acts as write to the corresponding object in the other group. As
  aliases, a read of an object in this group is equivalent to a read of the
  corresponding object in the auxIO group.

  *** All objects in this MIB have been deprecated. ***

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.7"

REVISION "20230701145436Z"
DESCRIPTION
  "NTCIP 1201 v04 - Upgraded format to SMIv2 and deprecated all objects."

REVISION "200610020000Z"
DESCRIPTION
```

```
  "NTCIP 1201 v03 - Created this as a standalone MIB. Changed all statuses to
  'mandatory' to eliminate checking errors. Revised object names."

::= { global 7 }
```

3.2 OBJECTS

3.2.1 Maximum Number of Digital Auxiliary I/Os Parameter

```
maxAuxIOv2TableNumDigitalPorts OBJECT-TYPE
SYNTAX     Integer32 (0..255)
UNITS      "digital ports"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The number of rows contained in the 'auxIOv2Table' with the
  auxIOv2PortType set to 'digital'.

  <Supplanted by> ISO26048-1-Srsa.fdSrsaTypeCount (ISO 26048-1)

  <Informative> The GPIO count objects are managed by port type.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.7.1"

::= { auxIOv2 1 }
```

3.2.2 Maximum Number of Analog Auxiliary I/Os Parameter

```
maxAuxIOv2TableNumAnalogPorts OBJECT-TYPE
SYNTAX     Integer32 (0..255)
UNITS      "analog ports"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The number of rows contained in the 'auxIOv2Table' with the
  auxIOv2PortType set to 'analog'.

  <Supplanted by> ISO26048-1-Srsa.fdSrsaTypeCount (ISO 26048-1)

  <Informative> The GPIO count objects are managed by port type.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.7.2"

::= { auxIOv2 2 }
```

3.2.3 Auxiliary I/O Table Parameter

```
auxIOv2Table OBJECT-TYPE
SYNTAX     SEQUENCE OF AuxIOv2Entry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>A table providing the means to access any non- mission-
  critical or non-safety-related auxiliary I/O of the controller, including
  reading inputs and setting outputs. The number of rows in this table equals
  the sum of the values of the 'maxAuxIOv2TableNumDigitalPorts' and
  'maxAuxIOv2TableNumAnalogPorts' objects.

  This table shall not be used to control or monitor any safety related
  equipment. The electrical levels used by the ports are not standardized by
  auxIOv2Table objects; such information should be contained in the hardware
  manual.

  <Table Type> static
```



```
  <Supplanted by> ISO26048-1-Srsa.fdSrsaTable & FIELD-DEVICE-GPIO-
  MIB.fdGPIOPortTable (ISO 26048-1)

  <Informative> The GPIO objects provide a summary table for each port type.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.7.3"

::= { auxIOv2 3 }

auxIOv2Entry OBJECT-TYPE
SYNTAX     AuxIOv2Entry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>Parameters of the auxiliary I/O table.

  <Supplanted by> ISO26048-1-Srsa.fdSrsaEntry & FIELD-DEVICE-GPIO-
  MIB.fdGPIOPortEntry (ISO 26048-1)

  <Informative> The GPIO tables add columns for a count for each port type, a
  summary status of each type of port, an indication of the units reported by
  the port, an indication of the minimum and maximum values that can be
  reliably reported by the port, minimum and maximum threshold values that
  indicate when an alarm should be raised, and a status object that indicates
  any availability or alarm conditions.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.7.3.1"

INDEX      { auxIOv2PortType, auxIOv2PortNumber }
::= { auxIOv2Table 1 }

AuxIOv2Entry ::= SEQUENCE {
        auxIOv2PortType               INTEGER,
        auxIOv2PortNumber             INTEGER,
        auxIOv2PortDescription        DisplayString,
        auxIOv2PortResolution         INTEGER,
        auxIOv2PortValue              INTEGER,
        auxIOv2PortDirection          INTEGER,
        auxIOv2PortLastCommandedState INTEGER}
```

3.2.3.1 Auxiliary Port Type Parameter

```
auxIOv2PortType OBJECT-TYPE
SYNTAX     INTEGER{ other (1),
                    analog (2),
                    digital (3)
                    }
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>Indicates the type of auxiliary I/O, which can be analog or
  digital.

  <Supplanted by> ISO26048-1-Srsa.fdSrsaType (ISO 26048-1)

  <Informative> The GPIO tables classify ports using a three-letter code. ISO
  26048-1 defines 23 port types and additional port types can be defined by
  registering with ISO. Example port types currently defined include
  humidity, light intensity, temperature, battery current, battery voltage,
  battery charge, generator fuel level, generator engine speed, fan status,
  etc.
```

```
  From NTCIP 1201 v01 to NTCIP v02 of these objects, it was determined that
  ports are either digital, analog, or other.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.7.3.1.1"

::= { auxIOv2Entry 1 }
```

3.2.3.2 Auxiliary Port Number Parameter

```
auxIOv2PortNumber OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>Indicates the port number for the associated port type. Port
  numbers are used sequentially from one to max for each port type. There can
  be a port 1 for analog port and port 1 for digital port.

  <Supplanted by> ISO26048-1-Srsa.fdSrsaPortNumber (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.7.3.1.2"

::= { auxIOv2Entry 2 }
```

3.2.3.3 Auxiliary Description Parameter

```
auxIOv2PortDescription OBJECT-TYPE
SYNTAX     DisplayString (SIZE (0..255))
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>Informational text field describing the device at the
  associated auxiliary I/O.

  <Supplanted by> ISO26048-1-Srsa.fdSrsaPortDescription (ISO 26048-1)

  <Informative> The GPIO object is an SnmpAdminString, which supports multi-
  lingual text.
  In NTCIP 1203 v01, the SYNTAX SIZE was listed as (0..50). In NTCIP 1201 v02
  and NTCIP 1201 v03, this was changed to (0..255).

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.7.3.1.3"

::= { auxIOv2Entry 3 }
```

3.2.3.4 Auxiliary Resolution Parameter

```
auxIOv2PortResolution OBJECT-TYPE
SYNTAX     Integer32 (1..255)
UNITS      "bits"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>Defines number of bits used for the IO-port (e.g. width of
  digital, resolution of analog). Thus, this feature allows the digital
  monitoring (via NTCIP) of an analog port on the agent.

  <Informative> In NTCIP 1203 v01, ACCESS was listed as read-write; however,
  in NTCIP 1201 v03, ACCESS changed to read-only . This changed because
  resolution is fixed by the hardware implementation and cannot be changed by
  the management station.

  The SYNTAX also changed from NTCIP 1201 v02 to NTCIP 1201 v03; it is now as
  it was originally under the experimental node defined in NTCIP 1203v01.
  This changed to address backward compatibility and the 'aliasing' between
  the version 1 objects (see Section 2.10) and the Version 02 objects.
```



```
  <Supplanted by> ISO26048-1-Srsa.fdSrsaPortMinValue & ISO26048-1-
  Srsa.fdSrsaPortMaxValue (ISO 26048-1)

  <Informative> The GPIO table indicates the range over which values can be
  considered reliable.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.7.3.1.4"

::= { auxIOv2Entry 4 }
```

3.2.3.5 Auxiliary Value Parameter

```
auxIOv2PortValue OBJECT-TYPE
SYNTAX     Integer32
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>For input or bidirectional ports, this contains the current
  value of the input. For output ports, this is the last commanded value of
  the port. A genError shall be generated, if this object is set and the port
  is an input. The actual value exchanged shall not exceed
  [2^(auxIOv2PortResolution): 1]; any SET operation to a value in excess of
  this number shall result in a genErr, and any GET response in excess of
  this value shall be considered erroneous.

  <Supplanted by> ISO26048-1-Srsa.fdSrsaPortValue (ISO 26048-1)

  <Informative> The original specification defined this parameter using
  INTEGER (0..4294967295); however, by convention, INTEGERs are limited to
  the range (-2147483648..2147483647) in SNMPv1 and SNMPv3 enforces this
  limitation. Therefore, when presenting this object in SNMPv3, it is encoded
  as an Unsigned32 rather than an INTEGER (0..4294967295); proxy agents will
  need to address this encoding change within their implementation. The
  replacement object in the GPIO table supports a signed 32-bit integer,
  thereby allowing sensors to report negative values.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.7.3.1.5"

::= { auxIOv2Entry 5 }
```

3.2.3.6 Auxiliary Port Direction Parameter

```
auxIOv2PortDirection OBJECT-TYPE
SYNTAX     INTEGER { output (1),
                     input (2),
                     bidirectional (3) }
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>Indicates whether state of this port can be set (output), read
  (input) or both (bidirectional).

  <Supplanted by> ISO26048-1-Srsa.fdSrsaPortDirection (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.7.3.1.6"

::= { auxIOv2Entry 6 }
```

3.2.3.7 Auxiliary Port Last Commanded State Parameter

```
auxIOv2PortLastCommandedState OBJECT-TYPE
SYNTAX     Integer32
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
```

```
  "<Definition>For bi-directional ports, this object indicates the last state
  to which the auxIOv2PortValue object was set. For output ports, this value
  shall always be equal to the auxIOv2PortValue object. For input ports, this
  value shall always be zero (0).

  <Supplanted by> ISO26048-1-Srsa.fdSrsaRequestedValue (ISO 26048-1)

  <Informative> The original specification defined this parameter Using
  INTEGER (0..4294967295); however, by convention, INTEGERs Are limited to
  the range (-2147483648..2147483647) in SNMPv1 and SNMPv3 enforces this
  limitation. Therefore, when presenting this Object in SNMPv3, it is encoded
  as an Unsigned32 rather than an INTEGER (0..4294967295); proxy agents will
  need to address this encoding change within their implementation.

  The replacement object in the GPIO table supports a signed 32- bit integer,
  thereby allowing negative output values.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.7.3.1.7"

::= { auxIOv2Entry 7 }
END
```


Section 4 DEPRECATED AUXILIARY I/O MIB

The text provided from Section 4.1 through the end of Section 4 (except the headings) constitutes the standard NTCIP1201-AuxiliaryIO MIB.

**** All objects contained in this MIB are deprecated. ****

4.1 AUXILIARY I/O HEADER

```
NTCIP1201-AuxiliaryIO DEFINITIONS ::= BEGIN
IMPORTS
MODULE-IDENTITY, OBJECT-TYPE, OBJECT-IDENTITY, Integer32
                                                FROM SNMPv2-SMI
                                                  -- RFC 2578
   DisplayString
                                                FROM SNMPv2-TC
                                                  -- RFC 2579
   expGlobal
                                                FROM NTCIP8004-NEMA;

auxiliaryIO MODULE-IDENTITY
LAST-UPDATED "20230701145436Z"
ORGANIZATION "NTCIP BSP2 WG"
CONTACT-INFO
  "name: NTCIP Coordinator
   email:  ntcip@nema.org
   postal: National Electrical Manufacturers Association
           1300 North 17th Street, Suite 1752
           Rosslyn, Virginia 22209-3801"
DESCRIPTION
  "<Definition> This MIB defines the SMIv2 representation of the AuxIO
  objects that were previously defined in NTCIP 1201 v03.

  This MIB contains the auxiliary input/output (I/O) objects originally
  defined in NTCIP 1203 v01 (a.k.a. NTCIP 1203:1997) under the experimental
  node. When the objects were moved to NTCIP 1201 v02, a slightly revised
  structure was developed under the global node and the original experimental
  objects were deprecated. This MIB is provided for backwards compatibility
  to support access to the experimental objects via an SNMPv3 proxy agent.

  In the context of implementation that supports these objects, there is no
  difference between what appeared in NTCIP 1203:1997 and what appears here.

  The auxiliary I/O management objects listed herein define a mechanism for
  the support of unspecified I/O for an NTCIP device. The agency or device
  specifications should define the intended operation of these ports.
  NOTE: These objects are still logically located under the nemaExperimental
  node and use their originally defined textual names and OIDs. For the
  purposes of backward compatibility, the object STATUS has been changed to
  deprecated. For those agents that may support these objects and the new
  objects under the global node (see Section 2.9), the object definitions
  shall be treated as aliases in that a write to an object in one group acts
  as write to the corresponding object in the other group. As aliases, a read
  of an object in one group also acts as read of the corresponding object in
  the other group.
```

```
  Early NTCIP deployments included the Aux I/O objects defined in NTCIP 1203
  v01 located under an experimental node. These objects were moved to a
  permanent node with the release of NTCIP 1201 v02 and given new names. This
  can create confusion and backward compatibility issues. As noted in the
  object definition, both sets of objects refer to the same functions within
  the device; hence, both sets of objects cause the same device action or
  provide the same device status. Agency specifications which do NOT require
  support for the Aux I/O objects under the experimental node should exclude
  the support for these experimental objects (which have been deprecated) to
  ensure backward compatibility. Support of the Aux I/O objects under the
  permanent node identified in NTCIP 1201 v03 may be optional or mandatory
  depending on the agency- or project specification.

  Use the PRL to exclude support of NTCIP 1201 v01-defined aux I/O objects.
  The relationship between mandatory and optional support of NTCIP 1201 v01
  (experimental) and NTCIP 1201 v02 objects is unique to the Aux I/O objects.

  *** All objects in this MIB have been deprecated. ***

  <Object Identifier> 1.3.6.1.4.1.1206.2.2.1"

REVISION "20230701145436Z"
DESCRIPTION
  "NTCIP 1201 v04 - Upgraded format to SMIv2 (all objects were previously
  deprecated)."

REVISION "200610020000Z"
DESCRIPTION
  "NTCIP 1201 v03 - Created this as a standalone MIB. Deprecated all
  objects."

::= { expGlobal 1 }
```

4.2 OBJECTS

4.2.1 Maximum Number of Digital Auxiliary I/Os Parameter

```
maxAuxIODigital OBJECT-TYPE
SYNTAX     Integer32 (0..255)
UNITS      "digital ports"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The number of rows contained in the 'auxIOTable' with the
  auxIOPortType set to 'digital'.

  <Superseded by> maxAuxIOv2TableNumDigitalPorts

  <Object Identifier> 1.3.6.1.4.1.1206.2.2.1.1"

::= { auxiliaryIO 1 }
```

4.2.2 Maximum Number of Analog Auxiliary I/Os Parameter

```
maxAuxIOAnalog OBJECT-TYPE
SYNTAX     Integer32 (0..255)
UNITS      "analog ports"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The number of rows contained in the 'auxIOTable' with the
  auxIOPortType set to 'analog'.

  <Superseded by> maxAuxIOv2TableNumAnalogPorts
```



```
  <Object Identifier> 1.3.6.1.4.1.1206.2.2.1.2"
::= { auxiliaryIO 2 }
```

4.2.3 Auxiliary I/O Table Parameter

```
auxIOTable OBJECT-TYPE
SYNTAX     SEQUENCE OF AuxIOEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> A table providing the means to access the auxiliary I/O of
  the Controller, including reading inputs and setting outputs. A maximum of
  255 auxiliary I/Os may be defined for all, digital, analog or other types
  of ports.

  <Table Type> static

  <Superseded by> auxIOv2Table

  <Object Identifier> 1.3.6.1.4.1.1206.2.2.1.3"
::= { auxiliaryIO 3 }

auxIOEntry OBJECT-TYPE
SYNTAX     AuxIOEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> Parameters of the auxiliary I/O table.

  <Superseded by> auxIOv2Entry

  <Object Identifier> 1.3.6.1.4.1.1206.2.2.1.3.1"
INDEX      { auxIOPortType, auxIOPortNumber }
::= { auxIOTable 1 }

AuxIOEntry ::= SEQUENCE {
        auxIOPortType      INTEGER,
        auxIOPortNumber    INTEGER,
        auxIODescription   DisplayString,
        auxIOResolution    INTEGER,
        auxIOValue         INTEGER,
        auxIOPortDirection INTEGER}
```

4.2.3.1 Auxiliary Port Type Parameter

```
auxIOPortType OBJECT-TYPE
SYNTAX     INTEGER{ other (1),
                    analog (2),
                    digital (3)
                    }
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> Indicates the type of auxiliary I/O, which may be analog,
  digital or other.

  <Superseded by> auxIOv2PortType

  <Object Identifier> 1.3.6.1.4.1.1206.2.2.1.3.1.1"
```

```
::= { auxIOEntry 1 }
```

4.2.3.2 Auxiliary Port Number Parameter

```
auxIOPortNumber OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> Indicates the port number for the associated port type. Port
  numbers are used sequentially from one to max for each port type. There can
  be a port 1 for analog port and port 1 for digital port.

  <Superseded by> auxIOv2PortNumber

  <Object Identifier> 1.3.6.1.4.1.1206.2.2.1.3.1.2"

::= { auxIOEntry 2 }
```

4.2.3.3 Auxiliary Description Parameter

```
auxIODescription OBJECT-TYPE
SYNTAX     DisplayString (SIZE (0..50))
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> Informational text field describing the device at the
  associated auxiliary I/O

  <Informative> In NTCIP 1203 v01, the SYNTAX SIZE was listed as (0..50). In
  all versions of NTCIP 1201 v02, auxIO2Description (this object's alias) was
  changed to (0..255). This does not present a backward compatibility issue
  if a NTCIP 1201 v02 management station limits the size of the DisplayString
  to 50 characters.

  <Superseded by> auxIOv2PortDescription

  <Object Identifier> 1.3.6.1.4.1.1206.2.2.1.3.1.3"

::= { auxIOEntry 3 }
```

4.2.3.4 Auxiliary Resolution Parameter

```
auxIOResolution OBJECT-TYPE
SYNTAX     Integer32 (1..255)
UNITS      "bits"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> Defines number of bits used for the IO-port (e.g. width of
  digital, resolution of analog).

  <Informative> In NTCIP 1203 v01, the ACCESS was listed as read- write.
  Resolution is fixed by the hardware implementation and cannot be changed by
  the management station.

  <Superseded by> auxIOv2PortResolution

  <Object Identifier> 1.3.6.1.4.1.1206.2.2.1.3.1.4"

::= { auxIOEntry 4 }
```

4.2.3.5 Auxiliary Value Parameter

```
auxIOValue OBJECT-TYPE
SYNTAX     Integer32
MAX-ACCESS read-write
```



```
STATUS     deprecated
DESCRIPTION
  "<Definition> For input or bidirectional ports, this contains the current
  value of the input. For output ports, this is the last commanded value of
  the port. A genError shall be generated, if this object is set and the port
  is an input.

  <Superseded by> auxIOv2PortValue

  <Informative> The original specification defined this parameter using
  INTEGER (0..4294967295); however, by convention, INTEGERs are limited to
  the range (-2147483648..2147483647) in SNMPv1 and SNMPv3 enforces this
  limitation. Therefore, when presenting this object in SNMPv3, it is encoded
  as an Unsigned32 rather than an INTEGER (0..4294967295); proxy agents will
  need to address this encoding change within their implementation.

  <Object Identifier> 1.3.6.1.4.1.1206.2.2.1.3.1.5"

::= { auxIOEntry 5 }
```

4.2.3.6 Auxiliary Port Direction Parameter

```
auxIOPortDirection OBJECT-TYPE
SYNTAX     INTEGER { output (1),
                     input (2),
                     bidirectional (3)}
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> Indicates whether state of this port can be set (output),
  read (input) or both (bidirectional).

  <Informative> The ACCESS has been changed from what originally appeared in
  NTCIP 1203 v01 because it was an error.

  <Superseded by> auxIOv2PortDirection

  <Object Identifier> 1.3.6.1.4.1.1206.2.2.1.3.1.6"

::= { auxIOEntry 6 }
END
```

Section 5 DEPRECATED SNMP MIB

The text provided from Section 5.1 through the end of Section 5 (except the headings) constitutes the standard NTCIP1201-SnmpConfig MIB.

**** All objects contained in this MIB are deprecated. ****

5.1 HEADER

```
NTCIP1201-SnmpConfig DEFINITIONS ::= BEGIN
IMPORTS
MODULE-IDENTITY, OBJECT-IDENTITY, OBJECT-TYPE, Integer32
                                                FROM SNMPv2-SMI
                                                  -- RFC 2578
   application
                                                FROM NTCIP8004-Transportation;

snmpConfig MODULE-IDENTITY
LAST-UPDATED "20230701145436Z"
ORGANIZATION "NTCIP BSP2 WG"
CONTACT-INFO
  "name: NTCIP Coordinator
   email:  ntcip@nema.org
   postal: National Electrical Manufacturers Association
           1300 North 17th Street, Suite 1752
           Rosslyn, Virginia 22209-3801"
DESCRIPTION
  "<Definition> This MIB defines the SMIv2 representation of
  snmpMaxPacketSize, which was previously defined in NTCIP 1103. This object
  is no longer needed with SNMPv3.

  *** All objects in this MIB have been deprecated. ***

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.1"

REVISION "20230701145436Z"
DESCRIPTION
  "NTCIP 1201 v04 - Upgraded format to SMIv2 and deprecated all objects."

REVISION "201612310000Z"
DESCRIPTION
  "NTCIP 1103 v03 - No change."

REVISION "200903310000Z"
DESCRIPTION
  "NTCIP 1103 v02 - Changed name to snmpMaxPacketSize. Separated SNMP object
  into its own MIB."

REVISION "200409270000Z"
DESCRIPTION
  "NTCIP 1103 v01: Original version with object named snmp-maxPacketSize."

::= { application 1 }
```

5.2 OBJECTS

5.2.1 Max Packet Size

```
snmpMaxPacketSize OBJECT-TYPE
```



```
SYNTAX     Integer32 (484..65535)
UNITS      "octets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> Indicates the maximum packet size, in octets, that the SNMP
  agent supports for reception or transmission.

  <Supplanted by> SNMP-FRAMEWORK-MIB.snmpEngineMaxMessageSize (RFC 3411)

  <Informative> This object is no longer needed within SNMPv3 because the
  maximum packet size is contained in the HeaderData of each SNMPv3 data
  packet, as defined in RFC 3412. Nonetheless, RFC 3411 does define an object
  that can be retrieved to report the value that is applicable across all
  connections.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.1.1"

::= { snmpConfig 1 }
END
```

Section 6 DEPRECATED SFMP MIB

The text provided from Section 6.1 through the end of Section 6 (except the headings) constitutes the standard NTCIP1201-Sfmp MIB.

**** All objects contained in this MIB are deprecated. ****

6.1 HEADER

```
NTCIP1201-Sfmp DEFINITIONS ::= BEGIN
IMPORTS
MODULE-IDENTITY, OBJECT-IDENTITY, OBJECT-TYPE, Counter32
                                                FROM SNMPv2-SMI
                                                  -- RFC 2578
   application
                                                FROM NTCIP8004-Transportation;

sfmp MODULE-IDENTITY
LAST-UPDATED "20230701145436Z"
ORGANIZATION "NTCIP BSP2 WG"
CONTACT-INFO
  "name: NTCIP Coordinator
   email:  ntcip@nema.org
   postal: National Electrical Manufacturers Association
           1300 North 17th Street, Suite 1752
           Rosslyn, Virginia 22209-3801"
DESCRIPTION
  "<Definition> This MIB defines the SMIv2 representation of the
  NTCIP1103v0352-SFMP MIB, which is defined in NTCIP 1103. It defines objects
  related to managing and monitoring the communication statistics for the
  Simple Fixed Message Protocol. (SFMP).

  *** All objects in this MIB have been deprecated. ***

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2"

REVISION "20230701145436Z"
DESCRIPTION
  "NTCIP 1201 v04 - Upgraded format to SMIv2 and deprecated all objects."

REVISION "201612310000Z"
DESCRIPTION
  "NTCIP 1103 v03 - No change."

REVISION "200903310000Z"
DESCRIPTION
  "NTCIP 1103 v02 - Updated text to conform to current conventions; separated
  SFMP objects into their own MIB."

REVISION "200409270000Z"
DESCRIPTION
  "NTCIP 1103 v01: Original version of objects."

::= { application 2 }
```

6.2 OBJECT IDENTITIES

6.2.1 SFMP Statistics

```
sfmpStatistics OBJECT-IDENTITY
STATUS     deprecated
DESCRIPTION
  "<Definition> This node contains communication statistics for the Simple
  Fixed Message Protocol (SFMP).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1"

::= { sfmp 1 }
```

6.3 OBJECTS

6.3.1 Number of Incoming SFMP Packets

```
sfmpInPkts OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of Messages delivered to the SFMP entity for
  processing.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.1"

::= { sfmpStatistics 1 }
```

6.3.2 Number of Outgoing SFMP Packets

```
sfmpOutPkts OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP PDU's which were generated by the
  SFMP protocol entity.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.2"

::= { sfmpStatistics 2 }
```

6.3.3 Number of Incoming SFMP Packets with Bad Version Numbers

```
sfmpInBadVersions OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP Messages which were delivered to the
  SFMP protocol entity and were for an unsupported SFMP version.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.3"

::= { sfmpStatistics 3 }
```

6.3.4 Number of Incoming SFMP Packets with Bad Community Names

```
sfmpInBadCommunityNames OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP Messages delivered to the SFMP
  protocol entity which used a SFMP community name not known to said entity.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.4"

::= { sfmpStatistics 4 }
```

6.3.5 Number of Incoming SFMP Packets with Bad Use of a Community Name

```
sfmpInBadCommunityUses OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP Messages delivered to the SFMP
  protocol entity which represented an SFMP operation which was not allowed
  by the SFMP community named in the Message.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.5"

::= { sfmpStatistics 5 }
```

6.3.6 Number of Incoming SFMP Packets with Parsing Errors

```
sfmpInParseErrs OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of OER errors encountered by the SFMP
  protocol entity when decoding received SFMP Messages.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.6"

::= { sfmpStatistics 6 }
```

6.3.7 Reserved

```
-- node 7 is reserved for bad types to parallel SNMP, but it does not
-- apply to SFMP
```

6.3.8 Number of Incoming SFMP Packets indicating a Too Big Error

```
sfmpInTooBigs OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
```

```
  "<Definition> The total number of SFMP PDUs which were delivered to the
  SFMP protocol entity with a Message Type of Error and Error Number of
  tooBig.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.8"

::= { sfmpStatistics 8 }
```

6.3.9 Number of Incoming SFMP Packets indicating a No Such Name Error

```
sfmpInNoSuchNames OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP PDUs which were delivered to the
  SFMP protocol entity with a Message Type of Error and Error Number of
  noSuchName.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.9"

::= { sfmpStatistics 9 }
```

6.3.10 Number of Incoming SFMP Packets indicating a Bad Value Error

```
sfmpInBadValues OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP PDUs which were delivered to the
  SFMP protocol entity with a Message Type of Error and Error Number of
  badValue.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.10"

::= { sfmpStatistics 10 }
```

6.3.11 Number of Incoming SFMP Packets indicating a Read-Only Error

```
sfmpInReadOnlys OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP PDUs which were delivered to the
  SFMP protocol entity with a Message Type of Error and Error Number of
  readOnly.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.11"

::= { sfmpStatistics 11 }
```

6.3.12 Number of Incoming SFMP Packets indicating a General Error

```
sfmpInGenErrs OBJECT-TYPE
```

```
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP PDUs which were delivered to the
  SFMP protocol entity with a Message Type of Error and Error Number of
  genError.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.12"

::= { sfmpStatistics 12 }
```

6.3.13 Reserved

```
-- node 13 is reserved for total request vars to
-- parallel SNMP, but it does not apply to SFMP
```

6.3.14 Reserved

```
-- node 14 is reserved for total set vars to parallel
-- SNMP, but it does not apply to SFMP
```

6.3.15 Number of Incoming SFMP Get Requests

```
sfmpInGetRequests OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP Get-Request PDUs which have been
  accepted and processed by the SFMP protocol entity.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.15"

::= { sfmpStatistics 15 }
```

6.3.16 Reserved

```
-- node 16 is reserved for in get nexts to parallel
-- SNMP, but it does not apply to SFMP
```

6.3.17 Number of Incoming SFMP Set Requests

```
sfmpInSetRequests OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP Set-Request PDUs which have been
  accepted and processed by the SFMP protocol entity.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.17"

::= { sfmpStatistics 17 }
```

6.3.18 Number of Incoming SFMP Get Responses

```
sfmpInGetResponses OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
```



```
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP Get-Response PDUs which have been
  accepted and processed by the SFMP protocol entity.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.18"

::= { sfmpStatistics 18 }
```

6.3.19 Reserved

```
-- node 19 is reserved for traps to parallel SNMP, but it
-- does not apply to SFMP at present
```

6.3.20 Number of Outgoing SFMP Packets indicating a Too Big Error

```
sfmpOutTooBigs OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP PDUs which were generated by the
  SFMP protocol entity with a Message Type of Error and Error Number of
  tooBig.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.20"

::= { sfmpStatistics 20 }
```

6.3.21 Number of Outgoing SFMP Packets indicating a No Such Name Error

```
sfmpOutNoSuchNames OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP PDUs which were generated by the
  SFMP protocol entity with a Message Type of Error and Error Number of
  noSuchname.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.21"

::= { sfmpStatistics 21 }
```

6.3.22 Number of Outgoing SFMP Packets indicating a Bad Value Error

```
sfmpOutBadValues OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP PDUs which were generated by the
  SFMP protocol entity with a Message Type of Error and Error Number of
  badValue.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.22"
```

```
::= { sfmpStatistics 22 }
```

6.3.23 Number of Outgoing SFMP Packets indicating a Read-Only Error

```
sfmpOutReadOnly OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP PDUs which were generated by the
  SFMP protocol entity with a Message Type of Error and Error Number of
  readOnly.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.23"

::= { sfmpStatistics 23 }
```

6.3.24 Number of Outgoing SFMP Packets indicating a General Error

```
sfmpOutGenError OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP PDUs which were generated by the
  SFMP protocol entity with a Message Type of Error and Error Number of
  genErr.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.24"

::= { sfmpStatistics 24 }
```

6.3.25 Number of Outgoing SFMP Get Requests

```
sfmpOutGetRequests OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP PDU's with a Message Type of Get-
  Request, which have been generated by the SFMP protocol entity.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.25"

::= { sfmpStatistics 25 }
```

6.3.26 Reserved

```
-- node 26 is reserved for out get nexts to parallel SNMP,
-- but it does not apply to SFMP
```

6.3.27 Number of Outgoing SFMP Set Requests

```
sfmpOutSetRequests OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
```



```
DESCRIPTION
  "<Definition> The total number of SFMP PDU's with a Message Type of Set-
  Request, which have been generated by the SFMP protocol entity.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.27"

::= { sfmpStatistics 27 }
```

6.3.28 Number of Outgoing SFMP Get Responses

```
sfmpOutGetResponses OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP PDU's with a Message Type of Get-
  Response, which have been generated by the SFMP protocol entity.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.28"

::= { sfmpStatistics 28 }
```

6.3.29 Number of Outgoing SFMP Trap Messages

```
sfmpOutTrapMessages OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP PDUs with a message type of Trap
  that have been generated by the SFMP protocol entity.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.29"

::= { sfmpStatistics 29 }
```

6.3.30 Reserved

```
-- node 30 is reserved for enable authentication traps to parallel
-- SNMP, but it does not apply to SFMP
```

6.3.31 Number of Incoming SFMP Set Requests - No Replies

```
sfmpInSetRequestsNoReply OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP Set-Request No Reply PDUs which have
  been accepted and processed by the SFMP protocol entity.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.31"

::= { sfmpStatistics 31 }
```

6.3.32 Number of Incoming SFMP Set Responses

```
sfmpInSetResponses OBJECT-TYPE
```

```
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP Set-Response PDUs which have been
  accepted and processed by the SFMP protocol entity.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.32"

::= { sfmpStatistics 32 }
```

6.3.33 Number of Incoming SFMP Error Responses

```
sfmpInErrorResponses OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP Error-Response PDUs which have been
  accepted and processed by the SFMP protocol entity.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.33"

::= { sfmpStatistics 33 }
```

6.3.34 Number of Outgoing SFMP Set Requests - No Replies

```
sfmpOutSetRequestsNoReply OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP PDU's with a Message Type of Set-
  Request-No-Reply, which have been generated by the SFMP protocol entity.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.34"

::= { sfmpStatistics 34 }
```

6.3.35 Number of Outgoing SFMP Set Responses

```
sfmpOutSetResponses OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP PDU's with a Message Type of Set-
  Response, which have been generated by the SFMP protocol entity.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.35"

::= { sfmpStatistics 35 }
```


6.3.36 Number of Outgoing SFMP Error Responses

```
sfmpOutErrorResponses OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of SFMP PDU's with a Message Type of Error-
  Response, which have been generated by the SFMP protocol entity.

  <Informative> This object has been deprecated along with SFMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.2.1.36"

::= { sfmpStatistics 36 }
END
```

Section 7 DEPRECATED DYNAMIC OBJECT MIB

The text provided from Section 7.1 through the end of Section 7 (except the headings) constitutes the standard NTCIP1201-DynObjMgmt MIB.

**** All objects contained in this MIB are deprecated. ****

7.1 HEADER

```
NTCIP1201-DynObjMgmt DEFINITIONS ::= BEGIN
IMPORTS
MODULE-IDENTITY, OBJECT-IDENTITY, OBJECT-TYPE, Integer32, zeroDotZero
                                                FROM SNMPv2-SMI
                                                  -- RFC 2578
   TEXTUAL-CONVENTION
                                                FROM SNMPv2-TC
                                                  -- RFC 2579
   protocols, NtcipOwnerString
                                                FROM NTCIP8004-Transportation;

dynObjMgmt MODULE-IDENTITY
LAST-UPDATED "20230701145436Z"
ORGANIZATION "NTCIP BSP2 WG"
CONTACT-INFO
  "name: NTCIP Coordinator
   email:  ntcip@nema.org
   postal: National Electrical Manufacturers Association
           1300 North 17th Street, Suite 1752
           Rosslyn, Virginia 22209-3801"
DESCRIPTION
  "<Definition> This MIB defines the SMIv2 representation of the
  NTCIP1103v0352-STMP MIB, which was previously defined in NTCIP 1103. This
  node contains management information related to dynamic objects. This node
  was deprecated in 2021 as a part of the NTCIP 8004v03 update because
  dynamic objects are a specific feature of the Simple Transportation
  Management Protocol (STMP), which was itself deprecated because it was
  deemed to provide insufficient security for modern networks.
  *** All objects in this MIB have been deprecated. ***

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3"

REVISION "20230701145436Z"
DESCRIPTION
  "NTCIP 1201 v04 - Upgraded format to SMIv2 and deprecated all objects."

REVISION "201612310000Z"
DESCRIPTION
  "NTCIP 1103 v03 - No change."

REVISION "200903310000Z"
DESCRIPTION
  "NTCIP 1103 v02 -."

REVISION "199609270000Z"
DESCRIPTION
  "NTCIP 1101 v01: Original version of these objects."

::= { protocols 3 }
```


7.2 TEXTUAL CONVENTIONS

```
ConfigEntryStatus ::= TEXTUAL-CONVENTION
STATUS     deprecated
DESCRIPTION
  "See Clause 5.2.4.1 of NTCIP 1103 v03 for the complete definition of this
  type."

SYNTAX     INTEGER { valid (1),
                     underCreation (2),
                     invalid (3) }
EntryStatus ::= TEXTUAL-CONVENTION
STATUS     deprecated
DESCRIPTION
  "See Annex E of NTCIP 1103 v03 for a complete definition of this Type."

SYNTAX     INTEGER { valid (1),
                     createRequest (2),
                     underCreation (3),
                     invalid (4) }
```

7.3 OBJECT IDENTITIES

7.3.1 Data Node

```
dynObjData OBJECT-IDENTITY
STATUS     deprecated
DESCRIPTION
  "<Definition> A node containing SNMP object definitions of the dynamic
  objects.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.2"

::= { dynObjMgmt 2 }
```

7.4 DYNAMIC OBJECT DEFINITION

7.4.1 Maximum Dynamic Object Table Entries

```
dynObjDefTableMaxEntries OBJECT-TYPE
SYNTAX     Integer32 (1..255)
UNITS      "entries"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object specifies the maximum number of rows that may be
  implemented in the Dynamic Object Definition table.

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.4"

::= { dynObjMgmt 4 }
```

7.4.2 Dynamic Object Definition Table

```
dynObjDef OBJECT-TYPE
SYNTAX     SEQUENCE OF DynObjEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> A list of objects to be included in dynamic objects

  <Table Type> static
```

```
  <Supplanted by> ISO26048-1-DynObj.fdDynObjFieldTable

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.1"

::= { dynObjMgmt 1 }

dynObjEntry OBJECT-TYPE
SYNTAX     DynObjEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> A list of OBJECT IDENTIFIERs that make up a dynamic object

  <Supplanted by> ISO26048-1-DynObj.fdDynObjFieldEntry

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.1.1"

INDEX      { dynObjNumber, dynObjIndex }
::= { dynObjDef 1 }

DynObjEntry ::= SEQUENCE {
        dynObjNumber   Integer32,
        dynObjIndex    Integer32,
        dynObjVariable OBJECT IDENTIFIER,
        dynObjOwner    NtcipOwnerString, -- previously deprecated
        dynObjStatus   EntryStatus }      -- previously deprecated}
```

7.4.2.1 Dynamic Object Number

```
dynObjNumber OBJECT-TYPE
SYNTAX     Integer32 ( 1..13)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The dynamic object number that this entry is to be associated
  with.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjIndex

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.1.1.1"

::= { dynObjEntry 1 }
```

7.4.2.2 Dynamic Object Index

```
dynObjIndex OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> An index that uniquely identifies an entry in the dynamic
  object table. Each entry defines an object that is to be associated with a
  dynamic object number. The dynObjIndex determines the order in which
  objects are transmitted for the associated dynamic object. The lower
  dynObjIndex numbers are transmitted before larger numbers for entries
  within the same dynamic object.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjFieldIndex
```



```
  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.1.1.2"

::= { dynObjEntry 2 }
```

7.4.2.3 Dynamic Object Variable

```
dynObjVariable OBJECT-TYPE
SYNTAX     OBJECT IDENTIFIER
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The complete object identifier of the particular variable to
  be included in the specified dynamic object number. When defining dynamic
  objects, the maximum size of all the objects included in a dynamic object
  shall not exceed the maximum packet size of the communications network.
  When set to reference a columnar object, an agent may wish to only validate
  the prefix portion of the object identifier. The suffix or index portion of
  an object identifier need not be instantiated or exist at the time a
  dynObjVariable is defined.
  This object shall not reference any of the objects identified in NTCIP 1103
  Clause 8.2.
  This object may not be modified unless the associated dynObjConfigStatus
  object is equal to underCreation.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjFieldObject

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.1.1.3"

DEFVAL     { zeroDotZero }
::= { dynObjEntry 3 }
```

7.4.2.4 Dynamic Object Owner

```
dynObjOwner OBJECT-TYPE
SYNTAX     NtcipOwnerString
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object has been replaced with dynObjConfigOwner. The
  entity that configured this entry and is therefore using the resources
  assigned to it. This object may not be modified if the associated
  dynObjStatus object is equal to valid(1).

  <Informative> This object was deprecated in NTCIP 1103 v02.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.1.1.4"

::= { dynObjEntry 4 }
```

7.4.2.5 Dynamic Object Status

```
dynObjStatus OBJECT-TYPE
SYNTAX     EntryStatus
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object has been replaced with dynObjConfigStatus. The
  status of this dynamic object definition entry. See description of
  EntryStatus above for restrictions on accesses.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjFieldRowStatus
```

```
  <Informative> This object was deprecated in NTCIP 1103 v02.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.1.1.5"

::= { dynObjEntry 5 }
```

7.5 DYNAMIC OBJECT INFORMATION

7.5.1 Dynamic Object Data

7.5.1.1 Dynamic Object 1

```
dynObj1 OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The value of this object is determined by the dynObjDef
  entries with dynObjNumber equal to 1. Packed Encoding Rules are utilized to
  encode the objects for transmission. This object is intended for use with
  the Simple Transportation Management Protocol, and provides little
  advantage if used with SNMP. If no objects are defined for this dynamic
  object number, then an error of noSuchName shall be returned by the agent.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjCurrentValue and fdDynObjNewValue

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.2.1"

::= { dynObjData 1 }
```

7.5.1.2 Dynamic Object 2

```
dynObj2 OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The value of this object is determined by the dynObjDef
  entries with dynObjNumber equal to 2. Packed Encoding Rules are utilized to
  encode the objects for transmission. This object is intended for use with
  the Simple Transportation Management Protocol, and provides little
  advantage if used with SNMP. If no objects are defined for this dynamic
  object number, then an error of noSuchName shall be returned by the agent

  <Supplanted by> ISO26048-1-DynObj.fdDynObjCurrentValue and fdDynObjNewValue

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.2.2"

::= { dynObjData 2 }
```

7.5.1.3 Dynamic Object 3

```
dynObj3 OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The value of this object is determined by the dynObjDef
  entries with dynObjNumber equal to 3. Packed Encoding Rules are utilized to
  encode the objects for transmission. This object is intended for use with
  the Simple Transportation Management Protocol, and provides little
```



```
  advantage if used with SNMP. If no objects are defined for this dynamic
  object number, then an error of noSuchName shall be returned by the agent

  <Supplanted by> ISO26048-1-DynObj.fdDynObjCurrentValue and fdDynObjNewValue

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.2.3"

::= { dynObjData 3 }
```

7.5.1.4 Dynamic Object 4

```
dynObj4 OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The value of this object is determined by the dynObjDef
  entries with dynObjNumber equal to 4. Packed Encoding Rules are utilized to
  encode the objects for transmission. This object is intended for use with
  the Simple Transportation Management Protocol, and provides little
  advantage if used with SNMP. If no objects are defined for this dynamic
  object number, then an error of noSuchName shall be returned by the agent

  <Supplanted by> ISO26048-1-DynObj.fdDynObjCurrentValue and fdDynObjNewValue

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.2.4"

::= { dynObjData 4 }
```

7.5.1.5 Dynamic Object 5

```
dynObj5 OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The value of this object is determined by the dynObjDef
  entries with dynObjNumber equal to 5. Packed Encoding Rules are utilized to
  encode the objects for transmission. This object is intended for use with
  the Simple Transportation Management Protocol, and provides little
  advantage if used with SNMP. If no objects are defined for this dynamic
  object number, then an error of noSuchName shall be returned by the agent

  <Supplanted by> ISO26048-1-DynObj.fdDynObjCurrentValue and fdDynObjNewValue

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.2.5"

::= { dynObjData 5 }
```

7.5.1.6 Dynamic Object 6

```
dynObj6 OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The value of this object is determined by the dynObjDef
  entries with dynObjNumber equal to 6. Packed Encoding Rules are utilized to
  encode the objects for transmission. This object is intended for use with
  the Simple Transportation Management Protocol, and provides little
```

```
  advantage if used with SNMP. If no objects are defined for this dynamic
  object number, then an error of noSuchName shall be returned by the agent

  <Supplanted by> ISO26048-1-DynObj.fdDynObjCurrentValue and fdDynObjNewValue

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.2.6"

::= { dynObjData 6 }
```

7.5.1.7 Dynamic Object 7

```
dynObj7 OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The value of this object is determined by the dynObjDef
  entries with dynObjNumber equal to 7. Packed Encoding Rules are utilized to
  encode the objects for transmission. This object is intended for use with
  the Simple Transportation Management Protocol, and provides little
  advantage if used with SNMP. If no objects are defined for this dynamic
  object number, then an error of noSuchName shall be returned by the agent

  <Supplanted by> ISO26048-1-DynObj.fdDynObjCurrentValue and fdDynObjNewValue

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.2.7"

::= { dynObjData 7 }
```

7.5.1.8 Dynamic Object 8

```
dynObj8 OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The value of this object is determined by the dynObjDef
  entries with dynObjNumber equal to 8. Packed Encoding Rules are utilized to
  encode the objects for transmission. This object is intended for use with
  the Simple Transportation Management Protocol, and provides little
  advantage if used with SNMP. If no objects are defined for this dynamic
  object number, then an error of noSuchName shall be returned by the agent

  <Supplanted by> ISO26048-1-DynObj.fdDynObjCurrentValue and fdDynObjNewValue

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.2.8"

::= { dynObjData 8 }
```

7.5.1.9 Dynamic Object 9

```
dynObj9 OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The value of this object is determined by the dynObjDef
  entries with dynObjNumber equal to 9. Packed Encoding Rules are utilized to
  encode the objects for transmission. This object is intended for use with
  the Simple Transportation Management Protocol, and provides little
```



```
  advantage if used with SNMP. If no objects are defined for this dynamic
  object number, then an error of noSuchName shall be returned by the agent

  <Supplanted by> ISO26048-1-DynObj.fdDynObjCurrentValue and fdDynObjNewValue

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.2.9"

::= { dynObjData 9 }
```

7.5.1.10 Dynamic Object 10

```
dynObj10 OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The value of this object is determined by the dynObjDef
  entries with dynObjNumber equal to 10. Packed Encoding Rules are utilized
  to encode the objects for transmission. This object is intended for use
  with the Simple Transportation Management Protocol, and provides little
  advantage if used with SNMP. If no objects are defined for this dynamic
  object number, then an error of noSuchName shall be returned by the agent

  <Supplanted by> ISO26048-1-DynObj.fdDynObjCurrentValue and fdDynObjNewValue

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.2.10"

::= { dynObjData 10 }
```

7.5.1.11 Dynamic Object 11

```
dynObj11 OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The value of this object is determined by the dynObjDef
  entries with dynObjNumber equal to 11. Packed Encoding Rules are utilized
  to encode the objects for transmission. This object is intended for use
  with the Simple Transportation Management Protocol, and provides little
  advantage if used with SNMP. If no objects are defined for this dynamic
  object number, then an error of noSuchName shall be returned by the agent

  <Supplanted by> ISO26048-1-DynObj.fdDynObjCurrentValue and fdDynObjNewValue

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.2.11"

::= { dynObjData 11 }
```

7.5.1.12 Dynamic Object 12

```
dynObj12 OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The value of this object is determined by the dynObjDef
  entries with dynObjNumber equal to 12. Packed Encoding Rules are utilized
  to encode the objects for transmission. This object is intended for use
  with the Simple Transportation Management Protocol, and provides little
```

```
  advantage if used with SNMP. If no objects are defined for this dynamic
  object number, then an error of noSuchName shall be returned by the agent

  <Supplanted by> ISO26048-1-DynObj.fdDynObjCurrentValue and fdDynObjNewValue

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.2.12"

::= { dynObjData 12 }
```

7.5.1.13 Dynamic Object 13

```
dynObj13 OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The value of this object is determined by the dynObjDef
  entries with dynObjNumber equal to 13. Packed Encoding Rules are utilized
  to encode the objects for transmission. This object is intended for use
  with the Simple Transportation Management Protocol, and provides little
  advantage if used with SNMP. If no objects are defined for this dynamic
  object number, then an error of noSuchName shall be returned by the agent

  <Supplanted by> ISO26048-1-DynObj.fdDynObjCurrentValue and fdDynObjNewValue

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.2.13"

::= { dynObjData 13 }
```

7.5.2 Dynamic Object Configuration

```
dynObjConfigTable OBJECT-TYPE
SYNTAX     SEQUENCE OF DynObjConfigEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> A table consisting of an owner and status for each of the 13
  dynamic object definitions.

  <Table Type> static

  <Supplanted by> ISO26048-1-DynObj.fdDynObjTable

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.3"

::= { dynObjMgmt 3 }

dynObjConfigEntry OBJECT-TYPE
SYNTAX     DynObjConfigEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> A table consisting of an owner and status for each of the 13
  dynamic object definitions.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjEntry

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.3.1"
```



```
INDEX      { dynObjNumber }
::= { dynObjConfigTable 1 }

DynObjConfigEntry ::= SEQUENCE {
        dynObjConfigOwner  NtcipOwnerString,
        dynObjConfigStatus ConfigEntryStatus}
```

7.5.2.1 Dynamic Object Configuration Owner

```
dynObjConfigOwner OBJECT-TYPE
SYNTAX     NtcipOwnerString
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The entity that configured the associated dynamic object.
  This object may not be modified unless the associated dynObjConfigStatus
  object is equal to underCreation.

  <Supplanted by> ISO26048-1-Owner.fdOwnerIndex

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.3.1.1"

DEFVAL     { "" }
::= { dynObjConfigEntry 1 }
```

7.5.2.2 Dynamic Object Configuration Status

```
dynObjConfigStatus OBJECT-TYPE
SYNTAX     ConfigEntryStatus
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> Indicates the state of the associated dynamic object.
  Depending on the validity checks that are performed on the dynamic object
  definition, a set request may or may not be honored. See Clause 5.2.4.1 for
  a complete description.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjRowStatus

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.3.3.1.2"

::= { dynObjConfigEntry 2 }
END
```

Section 8 DEPRECATED STMP MIB

The text provided from Section 8.1 through the end of Section 8 (except the headings) constitutes the standard NTCIP1201-Stmp MIB.

**** All objects contained in this MIB are deprecated. ****

8.1 HEADER

```
NTCIP1201-Stmp DEFINITIONS ::= BEGIN
IMPORTS
MODULE-IDENTITY, OBJECT-IDENTITY, OBJECT-TYPE, Counter32
                                                FROM SNMPv2-SMI
                                                  -- RFC 2578
   application
                                                FROM NTCIP8004-Transportation;

stmp MODULE-IDENTITY
LAST-UPDATED "20230701145436Z"
ORGANIZATION "NTCIP BSP2 WG"
CONTACT-INFO
  "name: NTCIP Coordinator
   email:  ntcip@nema.org
   postal: National Electrical Manufacturers Association
           1300 North 17th Street, Suite 1752
           Rosslyn, Virginia 22209-3801"
DESCRIPTION
  "<Definition> This MIB defines the SMIv2 representation of the
  NTCIP1103v0352-STMP-Stats MIB, which was defined in NTCIP 1103. This MIB
  defines objects related to communication statistics for the Simple
  Transportation Management Protocol (STMP).
  This MIB was deprecated in NTCIP 1201 v04 because the Simple Transportation
  Management Protocol (STMP) was deprecated because it was deemed to provide
  insufficient security for modern networks.
  *** All objects in this MIB have been deprecated. ***

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3"

REVISION "20230701145436Z"
DESCRIPTION
  "NTCIP 1201 v04 - Upgraded format to SMIv2 and deprecated all objects."

REVISION "201612310000Z"
DESCRIPTION
  "NTCIP 1103 v03 - No change."

REVISION "200903310000Z"
DESCRIPTION
  "NTCIP 1103 v02 - Changed name to snmpMaxPacketSize. Separated SNMP object
  into its own MIB."

REVISION "200409270000Z"
DESCRIPTION
  "NTCIP 1103 v01: Original version with object named snmp-maxPacketSize."

::= { application 3 }
```


8.2 OBJECT IDENTITIES

8.2.1 STMP Statistics Node

```
stmpStatistics OBJECT-IDENTITY
STATUS     deprecated
DESCRIPTION
  "<Definition> This node contains communication statistics for the Simple
  Transportation Management Protocol (STMP).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1"

::= { stmp 1 }
```

8.3 OBJECTS

8.3.1 Number of Incoming STMP Packets

```
stmpInPkts OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of Messages delivered to the STMP entity for
  processing.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.1"

::= { stmpStatistics 1 }
```

8.3.2 Number of Outgoing STMP Packets

```
stmpOutPkts OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP PDU's which were generated by the
  STMP protocol entity.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.2"

::= { stmpStatistics 2 }
```

8.3.3 Reserved

```
-- node 3 is reserved for bad version to parallel SNMP,
-- but it does not apply to STMP
```

8.3.4 Reserved

```
-- node 4 is reserved for bad community name to parallel
-- SNMP, but it does not apply to STMP
```

8.3.5 Reserved

```
-- node 5 is reserved for bad community use to parallel
-- SNMP, but it does not apply to STMP
```

8.3.6 Number of Incoming STMP Packets with Parsing Errors

```
stmpInParseErrs OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of OER errors encountered by the STMP
  protocol entity when decoding received STMP Messages.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.6"

::= { stmpStatistics 6 }
```

8.3.7 Reserved

```
-- node 7 is reserved for bad types to parallel SNMP, but
-- it does not apply to STMP
```

8.3.8 Number of Incoming STMP Packets indicating a Too Big Error

```
stmpInTooBigs OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP PDUs which were delivered to the
  STMP protocol entity with a Message Type of Error and Error Number of
  tooBig.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.8"

::= { stmpStatistics 8 }
```

8.3.9 Number of Incoming STMP Packets indicating a No Such Name Error

```
stmpInNoSuchNames OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
```



```
DESCRIPTION
  "<Definition> The total number of STMP PDUs which were delivered to the
  STMP protocol entity with a Message Type of Error and Error Number of
  noSuchName.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.9"

::= { stmpStatistics 9 }
```

8.3.10 Number of Incoming STMP Packets indicating a Bad Value Error

```
stmpInBadValues OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP PDUs which were delivered to the
  STMP protocol entity with a Message Type of Error and Error Number of
  badValue.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.10"

::= { stmpStatistics 10 }
```

8.3.11 Number of Incoming STMP Packets indicating a Read-Only Error

```
stmpInReadOnlys OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP PDUs which were delivered to the
  STMP protocol entity with a Message Type of Error and Error Number of
  readOnly.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.11"

::= { stmpStatistics 11 }
```

8.3.12 Number of Incoming STMP Packets indicating a General Error

```
stmpInGenErrs OBJECT-TYPE
```

```
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP PDUs which were delivered to the
  STMP protocol entity with a Message Type of Error and Error Number of
  genError.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.12"

::= { stmpStatistics 12 }
```

8.3.13 Reserved

```
-- node 13 is reserved for total request vars to parallel
-- SNMP, but it does not apply to STMP
```

8.3.14 Reserved

```
-- node 14 is reserved for total set vars to parallel SNMP,
-- but it does not apply to STMP
```

8.3.15 Number of Incoming STMP Get Requests

```
stmpInGetRequests OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP Get-Request PDUs which have been
  accepted and processed by the STMP protocol entity.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.15"

::= { stmpStatistics 15 }
```

8.3.16 Number of Incoming STMP Get Next Requests

```
stmpInGetNexts OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP Get-Next PDUs which have been
  accepted and processed by the STMP protocol entity.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
```



```
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.16"

::= { stmpStatistics 16 }
```

8.3.17 Number of Incoming STMP Set Requests

```
stmpInSetRequests OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP Set-Request PDUs which have been
  accepted and processed by the STMP protocol entity.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.17"

::= { stmpStatistics 17 }
```

8.3.18 Number of Incoming STMP Get Responses

```
stmpInGetResponses OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP Get-Response PDUs which have been
  accepted and processed by the STMP protocol entity.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.18"

::= { stmpStatistics 18 }
```

8.3.19 Reserved

```
-- node 19 is reserved for in trap responses to parallel
-- SNMP, but it does not apply to STMP
```

8.3.20 Number of Outgoing STMP Packets indicating a Too Big Error

```
stmpOutTooBigs OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
```

```
  "<Definition> The total number of STMP PDUs which were generated by the
  STMP protocol entity with a Message Type of Error and Error Number of
  tooBig.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.20"

::= { stmpStatistics 20 }
```

8.3.21 Number of Outgoing STMP Packets indicating a No Such Name Error

```
stmpOutNoSuchNames OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP PDUs which were generated by the
  STMP protocol entity with a Message Type of Error and Error Number of
  noSuchName.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.21"

::= { stmpStatistics 21 }
```

8.3.22 Number of Outgoing STMP Packets indicating a Bad Value Error

```
stmpOutBadValues OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP PDUs which were generated by the
  STMP protocol entity with a Message Type of Error and Error Number of
  badValue.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.22"

::= { stmpStatistics 22 }
```

8.3.23 Number of Outgoing STMP Packets indicating a Read-Only Error

```
stmpOutReadOnly OBJECT-TYPE
SYNTAX     Counter32
```



```
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP PDUs which were generated by the
  STMP protocol entity with a Message Type of Error and Error Number of
  readOnly.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.23"

::= { stmpStatistics 23 }
```

8.3.24 Number of Outgoing STMP Packets indicating a General Error

```
stmpOutGenError OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP PDUs which were generated by the
  STMP protocol entity with a Message Type of Error and Error Number of
  genErr.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.24"

::= { stmpStatistics 24 }
```

8.3.25 Number of Outgoing STMP Get Requests

```
stmpOutGetRequests OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP PDU's with a Message Type of Get-
  Request, which have been generated by the STMP protocol entity.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.25"

::= { stmpStatistics 25 }
```

8.3.26 Number of Outgoing STMP Get Next Requests

```
stmpOutGetNexts OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP PDU's with a Message Type of Get-
  Next, which have been generated by the STMP protocol entity.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.26"

::= { stmpStatistics 26 }
```

8.3.27 Number of Outgoing STMP Set Requests

```
stmpOutSetRequests OBJECT-TYPE
SYNTAX     Counter32
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP PDU's with a Message Type of Set-
  Request, which have been generated by the STMP protocol entity.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.27"

::= { stmpStatistics 27 }
```

8.3.28 Number of Outgoing STMP Get Responses

```
stmpOutGetResponses OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP PDU's with a Message Type of Get-
  Response, which have been generated by the STMP protocol entity.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.28"

::= { stmpStatistics 28 }
```


8.3.29 Reserved

```
-- node 29 is reserved for in trap responses to parallel
-- SNMP, but it does not apply to STMP
```

8.3.30 Reserved

```
-- node 30 is reserved for enable authentication traps to parallel
-- SNMP, but it does not apply to STMP
```

8.3.31 Number of Incoming STMP Set Request - No Replies

```
stmpInSetRequestsNoReply OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP Set-Request No Reply PDUs which have
  been accepted and processed by the STMP protocol entity.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.31"

::= { stmpStatistics 31 }
```

8.3.32 Number of Incoming STMP Set Responses

```
stmpInSetResponses OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP Set-Response PDUs which have been
  accepted and processed by the STMP protocol entity.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.32"

::= { stmpStatistics 32 }
```

8.3.33 Number of Incoming STMP Error Responses

```
stmpInErrorResponses OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP Error-Response PDUs which have been
  accepted and processed by the STMP protocol entity.
```

```
  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.33"

::= { stmpStatistics 33 }
```

8.3.34 Number of Outgoing STMP Set Request - No Replies

```
stmpOutSetRequestsNoReply OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP PDU's with a Message Type of Set-
  Request-No-Reply, which have been generated by the STMP protocol entity.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.34"

::= { stmpStatistics 34 }
```

8.3.35 Number of Outgoing STMP Set Responses

```
stmpOutSetResponses OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The total number of STMP PDU's with a Message Type of Set-
  Response, which have been generated by the STMP protocol entity.

  <Informative> This object has been deprecated along with STMP. This object
  was originally defined with a syntax of Counter. This MIB updates the
  syntax to Counter32 to conform to SMIv2 conventions. There is no difference
  between the Counter and Counter32 syntaxes. Users should note, however,
  that neither a Counter nor a Counter32 is Required to initialize at or
  reset to zero (0).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.35"

::= { stmpStatistics 35 }
```

8.3.36 Number of Outgoing STMP Error Responses

```
stmpOutErrorResponses OBJECT-TYPE
SYNTAX     Counter32
UNITS      "packets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
```



```
    "<Definition> The total number of STMP PDU's with a Message Type of Error-
    Response, which have been generated by the STMP protocol entity.

    <Informative> This object has been deprecated along with STMP. This object
    was originally defined with a syntax of Counter. This MIB updates the
    syntax to Counter32 to conform to SMIv2 conventions. There is no difference
    between the Counter and Counter32 syntaxes. Users should note, however,
    that neither a Counter nor a Counter32 is Required to initialize at or
    reset to zero (0).

    <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.3.1.36"

::= { stmpStatistics 36 }
END
```

Section 9 DEPRECATED STMP CONFIGURATION MIB

The text provided from Section 9.1 through the end of Section 9 (except the headings) constitutes the standard NTCIP1201-ProfilesSTMP MIB.

**** All objects contained in this MIB are deprecated. ****

9.1 HEADER

```
NTCIP1201-ProfilesSTMP DEFINITIONS ::= BEGIN
IMPORTS
MODULE-IDENTITY, OBJECT-IDENTITY, OBJECT-TYPE, Integer32
                                                FROM SNMPv2-SMI
                                                  -- RFC 2578
   profiles
                                                FROM NTCIP8004-Transportation;

profilesSTMP MODULE-IDENTITY
LAST-UPDATED "20230701145436Z"
ORGANIZATION "NTCIP BSP2 WG"
CONTACT-INFO
  "name: NTCIP Coordinator
   email:  ntcip@nema.org
   postal: National Electrical Manufacturers Association
           1300 North 17th Street, Suite 1752
           Rosslyn, Virginia 22209-3801"
DESCRIPTION
  "<Definition> This MIB defines the SMIv2 representation of the
  NTCIP1103v0352-STMP-Config MIB, which was defined in NTCIP 1103. This MIB
  defines objects related to the configuration of the Simple Transportation
  Management Protocol (STMP). This MIB was deprecated in NTCIP 1201 v04
  because the Simple Transportation Management Protocol (STMP) was deprecated
  because it was deemed to provide insufficient security for modern networks.
  *** All objects in this MIB have been deprecated. ***

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.2.2"

REVISION "20230701145436Z"
DESCRIPTION
  "NTCIP 1201 v04 - Upgraded format to SMIv2 and deprecated all objects."

REVISION "201612310000Z"
DESCRIPTION
  "NTCIP 1103 v03 - No change."

REVISION "200903310000Z"
DESCRIPTION
  "NTCIP 1103 v02 - Changed name to snmpMaxPacketSize. Separated SNMP object
  into its own MIB."

REVISION "200409270000Z"
DESCRIPTION
  "NTCIP 1103 v01: Original version with object named snmp-maxPacketSize."

::= { profiles 2 }
```


9.2 OBJECTS

9.2.1 Dynamic Object Persistence

```
dynamicObjectPersistence OBJECT-TYPE
SYNTAX     Integer32 (0..65535)
UNITS      "minutes"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The maximum power outage time in minutes that may occur
  before all STMP dynamic object definitions in a device shall be
  invalidated. If this object is set to zero then the existing dynamic object
  definitions shall be invalidated on device power up. If this object is set
  to its maximum value (65535), then the existing dynamic object definitions
  shall nominally persist for an infinite period (in practice this is limited
  by the non-volatile memory capabilities of the device). This object shall
  not be invalidated due to power outages of any duration. A device that
  supports STMP dynamic objects shall support this object.

  <Supplanted by> ISO26048-1-DynObj.fdOwnerDynObjPersistence

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.2.2.1"

DEFVAL     { 65535 }
::= { profilesSTMP 1 }
```

9.2.2 Dynamic Object Configuration ID

```
dynamicObjectTableConfigID OBJECT-TYPE
SYNTAX     Integer32 (0..65535)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> Specifies a relatively unique ID (e.g., this could be a
  counter, a check-sum, etc.) for the current values stored in the
  dynObjVariable and dynObjConfigOwner objects for all dynamic objects with a
  dynObjStatus of valid. This value shall be calculated on the change of any
  dynObjStatus to or from the valid state. This value reported by this object
  shall not change unless there has been a change in the data since the last
  request; however a genErr shall be returned if the unique ID value has not
  yet been updated. A management station will be able to detect any change in
  the configuration of dynamic objects by monitoring this value after it has
  established a baseline.

  <Supplanted by> ISO26048-1-DynObj.fdOwnerDynObjConfigID

  <Informative> This object has been deprecated along with STMP.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.2.2.2"

::= { profilesSTMP 2 }
END
```

Section 10 DEPRECATED LOGICAL NAMES MIB

The text provided from Section 10.1 through the end of Section 10 (except the headings) constitutes the standard NTCIP1201-LogicalNames MIB.

**** All objects contained in this MIB are deprecated. ****

10.1 HEADER

```
NTCIP1201-LogicalNames DEFINITIONS ::= BEGIN
IMPORTS
MODULE-IDENTITY, OBJECT-IDENTITY, OBJECT-TYPE, Integer32, IpAddress
                                                FROM SNMPv2-SMI
                                                  -- RFC 2578
   application, NtcipRowStatusStatic
                                                FROM NTCIP8004-Transportation;

logicalNames MODULE-IDENTITY
LAST-UPDATED "20230701145436Z"
ORGANIZATION "NTCIP BSP2 WG"
CONTACT-INFO
  "name: NTCIP Coordinator
   email:  ntcip@nema.org
   postal: National Electrical Manufacturers Association
           1300 North 17th Street, Suite 1752
           Rosslyn, Virginia 22209-3801"
DESCRIPTION
  "<Definition> This MIB defines the SMIv2 representation of the
  NTCIP1103v0352-LogicalNames MIB, which was defined in NTCIP 1103. This MIB
  defines various objects related to the mapping of logical device names to
  network addresses. This MIB was deprecated in NTCIP 1201 v04 because the
  SNMPv3 includes the definition of targets in the SNMP-TARGET-MIB, as
  defined in RFC 3413.
  *** All objects in this MIB have been deprecated. ***

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.4"

REVISION "20230701145436Z"
DESCRIPTION
  "NTCIP 1201 v04 - Upgraded format to SMIv2 and deprecated all objects."

REVISION "201612310000Z"
DESCRIPTION
  "NTCIP 1103 v03 - No change."

REVISION "200903310000Z"
DESCRIPTION
  "NTCIP 1103 v02 - Separated into its own MIB."

REVISION "200409270000Z"
DESCRIPTION
  "NTCIP 1103 v01: Original version."

::= { application 4 }
```


10.2 OBJECTS

10.2.1 Maximum Logical Name Translations

```
logicalNameTranslationTableMaxEntries OBJECT-TYPE
SYNTAX     Integer32 (1..255)
UNITS      "entries"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object specifies the maximum number of rows that may be
  implemented in the logical name translation table.

  <Informative> This object was deprecated because the SNMPv3 includes the
  definition of targets in the SNMP-TARGET-MIB, as defined in RFC 3413.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.4.1"

::= { logicalNames 1 }
```

10.2.2 Logical Name Translation Table

```
logicalNameTranslationTable OBJECT-TYPE
SYNTAX     SEQUENCE OF LogicalNameTranslationEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> This table defines the logical names of the other network
  entities with which the device may communicate and maps these names to the
  network addresses of those devices.

  <Table Type> static

  <Supplanted by> SNMP-TARGET-MIB.SnmpTargetAddrTable (RFC3413)

  <Informative> This object was deprecated because the SNMPv3 includes the
  definition of targets in the SNMP-TARGET-MIB, as defined in RFC 3413.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.4.2"

::= { logicalNames 2 }

logicalNameTranslationEntry OBJECT-TYPE
SYNTAX     LogicalNameTranslationEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> This is one logical row of the logical name translation
  table.

  <Supplanted by> SNMP-TARGET-MIB.SnmpTargetAddrEntry (RFC3413)

  <Informative> This object was deprecated because the SNMPv3 includes the
  definition of targets in the SNMP-TARGET-MIB, as defined in RFC 3413.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.4.2.1"

INDEX      { logicalNameTranslationIndex }
::= { logicalNameTranslationTable 1 }

LogicalNameTranslationEntry ::= SEQUENCE {
        logicalNameTranslationIndex           Integer32,
        logicalNameTranslationLogicalName     OCTET STRING,
        logicalNameTranslationNetworkAddress  IpAddress,
        logicalNameTranslationStatus          NtcipRowStatusStatic}
```

10.2.2.1 Index for the Logical Name Translation

```
logicalNameTranslationIndex OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object provides the index into the logical name table.

  <Supplanted by> SNMP-TARGET-MIB.SnmpTargetAddrName (RFC3413)

  <Informative> This object was deprecated because the SNMPv3 includes the
  definition of targets in the SNMP-TARGET-MIB, as defined in RFC 3413.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.4.2.1.1"

::= { logicalNameTranslationEntry 1 }
```

10.2.2.2 Logical Name for the Logical Name Translation

```
logicalNameTranslationLogicalName OBJECT-TYPE
SYNTAX     OCTET STRING (SIZE (0..32))
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object defines the logical name of the network entity
  for which this row is defined.

  <Supplanted by> SNMP-TARGET-MIB.SnmpTargetAddrName (RFC3413)

  <Informative> This object was deprecated because the SNMPv3 includes the
  definition of targets in the SNMP-TARGET-MIB, as defined in RFC 3413.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.4.2.1.2"

DEFVAL     { "" }
::= { logicalNameTranslationEntry 2 }
```

10.2.2.3 Network Address of the Logical Name Translation

```
logicalNameTranslationNetworkAddress OBJECT-TYPE
SYNTAX     IpAddress
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object defines the network address of the associated
  network entity for the given profile. If the transport profile is
  'internet, the network address is the IP address of the entity stored as an
  IpAddress. If the transport profile is 't2, there is no physical network
  address, but the entity is assigned a dummy IP address in order to abstract
  the mapping to the ipNetToMediaTable defined in MIB-II.

  <Supplanted by> SNMP-TARGET-MIB.SnmpTargetAddrTAddress (RFC3413)

  <Informative> This object was deprecated because the SNMPv3 includes the
  definition of targets in the SNMP-TARGET-MIB, as defined in RFC 3413. This
  object was originally defined with the syntax of NetworkAddress; The
  NetworkAddress is not defined in SNMPv3 and is actually an alias of
  IpAddress (i.e., it was defined as CHOICE {internet IpAddress}, which in
  BER is encoded exactly the same as IpAddress.) The conversion to SMIv2
  replaced this syntax with IpAddress.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.4.2.1.3"
```



```
DEFVAL     { '00000000'H }
::= { logicalNameTranslationEntry 3 }
```

10.2.2.4 Logical Name Translation Status

```
logicalNameTranslationStatus OBJECT-TYPE
SYNTAX     NtcipRowStatusStatic
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object allows for the management of rows within the
  table.

  <Supplanted by> SNMP-TARGET-MIB.SnmpTargetAddrRowStatus (RFC3413)

  <Informative> This object was deprecated because the SNMPv3 includes the
  definition of targets in the SNMP-TARGET-MIB, as defined in RFC 3413.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.4.2.1.4"

DEFVAL     { invalid }
::= { logicalNameTranslationEntry 4 }
END
```

Section 11 DEPRECATED REPORT MIB

The text provided from Section 11.1 through the end of Section 11 (except the headings) constitutes the standard NTCIP1201-GlobalReport MIB.

**** All objects contained in this MIB are deprecated. ****

11.1 HEADER

```
NTCIP1201-GlobalReport DEFINITIONS ::= BEGIN
IMPORTS
MODULE-IDENTITY, OBJECT-IDENTITY, OBJECT-TYPE, Integer32, Unsigned32,
   Opaque, zeroDotZero
                                                FROM SNMPv2-SMI
                                                  -- RFC 2578
   VariablePointer
                                                FROM SNMPv2-TC
                                                  -- RFC 2579
   global
                                                FROM NTCIP1201-Global;

globalReport MODULE-IDENTITY
LAST-UPDATED "20230701145436Z"
ORGANIZATION "NTCIP BSP2 WG"
CONTACT-INFO
  "name: NTCIP Coordinator
   email:  ntcip@nema.org
   postal: National Electrical Manufacturers Association
           1300 North 17th Street, Suite 1752
           Rosslyn, Virginia 22209-3801"
DESCRIPTION
  "<Definition> This MIB defines the SMIv2 representation of the
  NTCIP1103v0352-globalReport MIB, which was defined in NTCIP 1103. This MIB
  defines objects related to managing event information for the Purpose of
  logging data within the device. This MIB was deprecated in NTCIP 1201 v04
  due to security issues in the structure of the MIB. The objects have been
  replaced by objects in ISO 26048-1.
  *** All objects in this MIB have been deprecated. ***

  <Informative> The event class table is presented first to ease the
  readability of the standard; however, the node numbers assigned to this
  table reflect the original node numbering used in the original 1996
  specification to preserve backwards compatibility with existing systems.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4"

REVISION "20230701145436Z"
DESCRIPTION
  "NTCIP 1201 v04 - Upgraded format to SMIv2 and deprecated all objects."

REVISION "201612310000Z"
DESCRIPTION
  "NTCIP 1103 v03 - No change."

REVISION "200903310000Z"
DESCRIPTION
  "NTCIP 1103 v02 - Separated into its own MIB."
```



```
REVISION "200409270000Z"
DESCRIPTION
  "NTCIP 1103 v01: Original version."

::= { global 4 }
```

11.2 OBJECTS

11.2.1 Event Classes

```
maxEventClasses OBJECT-TYPE
SYNTAX     Integer32 (1..255)
UNITS      "classes"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The object defines the number of rows in the eventClassTable
  that this device supports. This is a static table.

  <Informative> The eventClassTable has been replaced with a dynamic table,
  which does not require an object indicating the maximum number of rows.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.5"

::= { globalReport 5 }
```

11.2.2 Event Class Table

```
eventClassTable OBJECT-TYPE
SYNTAX     SEQUENCE OF EventClassEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>This table is used to configure event logging limits and log
  table maintenance.

  <Table Type> static

  <Supplanted by> ISO26048-1-Log.fdLogManagerTable (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.6"

::= { globalReport 6 }

eventClassEntry OBJECT-TYPE
SYNTAX     EventClassEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>This defines a row in the Event Class Table

  <Supplanted by> ISO26048-1-Log.fdLogManagerEntry (ISO 26048-1)

  <Informative> The replacement table adds an index (fdLogManagerOwner) to
  allow administrators to limit access rights to groups of rows within the
  table and to allow users to define new rows without worrying if they are
  overwriting rows managed by other users. The replacement table also adds
  the following columns: a size limit (in octets) in addition to a limit on
  the number of entries, a separation of the time into a date and time to
  parallel the new way to represent time, parameters to configure the type of
  memory to use to store the log and the log configuration, a counter of the
  number of events bumped, and a row status. It is missing the number of rows
  currently in the log.
```

```
  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.6.1"

INDEX      { eventClassNumber }
::= { eventClassTable 1 }

EventClassEntry ::= SEQUENCE {
        eventClassNumber       Integer32,
        eventClassLimit        Integer32,
        eventClassClearTime    Unsigned32,
        eventClassDescription  OCTET STRING,
        eventClassNumRowsInLog Integer32,
        eventClassNumEvents    Integer32}
```

11.2.2.1 Event Class Number Parameter

```
eventClassNumber OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>This is a class value that is to be configured.

  <Supplanted by> ISO26048-1-Log.fdLogManagerName (ISO 26048-1)

  <Informative> The replacement object is a secondary index that uses an
  SnmpAdminString syntax; the primary index is ISO26048-1-
  Log.fdLogManagerOwner which also uses an SnmpAdminSyntax.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.6.1.1"

::= { eventClassEntry 1 }
```

11.2.2.2 Event Class Limit Parameter

```
eventClassLimit OBJECT-TYPE
SYNTAX     Integer32 (0..255)
UNITS      "events"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object specifies the maximum number of events of the
  associated class to store in the log. Once the limit is reached, the oldest
  entry of the matching class will be overwritten by any new entry of the
  same class. If the value of this object is set to a number smaller than the
  current number of rows within this class in the eventLogTable, then the
  oldest entries shall be lost/deleted. The sum of all event class limits
  shall not exceed the maxEventLogSize object; if a SET operation to this
  object causes the sum of eventClassLimit objects to exceed maxEventLogSize,
  then the agent shall respond with a genErr.
  The event cannot be logged if the eventClass has an eventClassLimit of zero
  (0). <Unit>Event

  <Supplanted by> ISO26048-1-Log.fdLogManagerSizeLimit & LOG-
  MIB.fdLogManagerEntryLimit (ISO 26048-1)

  <Informative> The replacement objects allow limits to be placed on the
  number of entries or the total size. The replacement object for the number
  of entries has a syntax of Unsigned32.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.6.1.2"

::= { eventClassEntry 2 }
```


11.2.2.3 Event Class Clear Time Parameter

```
eventClassClearTime OBJECT-TYPE
SYNTAX     Unsigned32
UNITS      "seconds"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object is used to clear multiple event log entries from
  the eventLogTable. All events of this class that have an eventLogTime equal
  to or less than this object shall be cleared from the eventLogTable. If
  this object has a value greater than the current value of globalTime, it
  shall prevent the logging of any events of this class.

  <Supplanted by> ISO26048-1-Log.fdLogManagerClearDate & LOG-
  MIB.fdLogManagerClearTime (ISO 26048-1)

  <Informative> This SMIv2 representation of the original SMIv1 object uses
  an Unsigned32 syntax rather than the original Counter syntax because the
  definition of the object does not meet the semantics defined for a Counter
  object. As a result, this object will have a different value in the 'type'
  field in the BER encoding when transmitted using SNMPv3 (and using SMIv2)
  than when transmitted using SNMPv1 (and using the SMIv1 definition). The
  superseding objects use the extended time format that includes a date
  object (good to the year 65535) and a time object (with millisecond
  resolution).

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.6.1.3"

DEFVAL     { 0 }
::= { eventClassEntry 3 }
```

11.2.2.4 Event Class Description Parameter

```
eventClassDescription OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object specifies a description of the class in ASCII
  characters.

  <Supplanted by> ISO26048-1-Log.fdLogManagerDescription (ISO 26048-1)

  <Informative> The replacement object specifies an SnmpAdminString Syntax,
  which allows management systems to automatically recognize the entry as
  text in any language.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.6.1.4"

::= { eventClassEntry 4 }
```

11.2.2.5 Event Class Number of Rows in Event Log Table Parameter

```
eventClassNumRowsInLog OBJECT-TYPE
SYNTAX     Integer32 (0..255)
UNITS      "events"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The number of rows for this class that currently exist in the
  eventLogTable.
```

```
  <Informative> The replacement table does not include a parallel object for
  this object.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.6.1.5"

::= { eventClassEntry 5 }
```

11.2.2.6 Class Event Log Counter Parameter

```
eventClassNumEvents OBJECT-TYPE
SYNTAX     Integer32 (0..65535)
UNITS      "events"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object is a counter that gets incremented every time an
  event occurs for this class; it shall initialize to zero at power up. The
  value shall roll over each time it exceeds the maximum of 65535.

  <Supplanted by> ISO26048-1-Log.fdLogManagerEventsLogged (ISO 26048-1)

  <Informative> The replacement object has a syntax of Counter32.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.6.1.6"

::= { eventClassEntry 6 }
```

11.2.3 Maximum Event Log Configurations Parameter

```
maxEventLogConfigs OBJECT-TYPE
SYNTAX     Integer32 (1..65535)
UNITS      "event types"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The number of rows that exist in the static eventLogConfig
  table for this device.

  <Informative> The eventLogConfigTable has been replaced with a dynamic
  table, which does not require an object indicating the maximum number of
  rows.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.1"

::= { globalReport 1 }
```

11.2.4 Event Log Configuration Table

```
eventLogConfigTable OBJECT-TYPE
SYNTAX     SEQUENCE OF EventLogConfigEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>A table containing Event Log Configuration information. The
  number of rows in this table is equal to the maxEventLogConfigs object.
  This table defines the parameters that the device will monitor to create an
  event.

  <Table Type> static

  <Supplanted by> ISO26048-1-Log.fdLogFactoryTable (ISO 26048-1) & ISO26048-
  1-CondTrigger.fdCondTriggerTable (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.2"

::= { globalReport 2 }
```



```
eventLogConfigEntry OBJECT-TYPE
SYNTAX     EventLogConfigEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>This object defines an entry in the event log configuration
  table.

  <Supplanted by> ISO26048-1-Log.fdLogFactoryEntry (ISO 26048-1) & ISO26048-
  1-CondTrigger.fdCondTriggerEntry (ISO 26048-1)

  <Informative> The replacement tables have dual indicies consisting of an
  owner and a name. The trigger table manages the definition of the trigger
  with the following changes:
  - A textual description is added
  - Samples (compare value) can be either the current value (as with this
  node, or a delta (i.e., how fast a value is changing)
  - The concept of Opaque is not supported in SNMPv3, so the replacement
  table includes a 'ValueOctet' object that is used with the bitwise operator
  - A wildcard column that allows defining the same condition on multiple
  comparison OIDs (e.g., all rows of a table)
  - Columns to define the target and context of the comparison object; in
  other words, the comparison can be performed by a proxy agent or can
  reference another device to get the object value to compare against
  - A frequency object that allows the configuration to control how
  frequently a comparison is made
  - A truthDuration object that allows the configuration to require the
  evaluation to be true for some length of time prior to firing the trigger.
  - Startup objects that define whether the triggers startup in a fired or
  unfired state (for hysteresis, there are two startups)
  - A pointer to the action table that identifies the action(s) to be
  performed.
  - An error message object that allows a device to report configuration
  errors.
  - Counters for the number of times the trigger has fired, had Evaluation
  errors, and activation errors.
  - An indication of the type of storage to use
  - A RowStatus object.
  The log factory table manages the definition of the information to be
  recorded with the following changes:
  - An object context, which allows a proxy/hrbrid agent to capture
  information from another context
  - A StorageType object
  - A RowStatus object

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.2.1"

INDEX      { eventConfigID }
::= { eventLogConfigTable 1 }

EventLogConfigEntry ::= SEQUENCE {
        eventConfigID            Integer32,
        eventConfigClass         Integer32,
        eventConfigMode          INTEGER,
        eventConfigCompareValue  Integer32,
        eventConfigCompareValue2 Integer32,
        eventConfigCompareOID    VariablePointer,
        eventConfigLogOID        VariablePointer,
        eventConfigAction        INTEGER,
```

```
        eventConfigStatus        INTEGER}
```

11.2.4.1 Event Log Configuration ID Parameter

```
eventConfigID OBJECT-TYPE
SYNTAX     Integer32 (1..65535)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object contains the row number which is used to identify
  the event associated with this row in the eventLogConfigTable. The number
  of event IDs shall not exceed the value indicated in the maxEventLogConfigs
  object.

  <Supplanted by> ISO26048-1-Log.fdLogFactory

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.2.1.1"

::= { eventLogConfigEntry 1 }
```

11.2.4.2 Event Log Configuration Class Parameter

```
eventConfigClass OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the class value to assign to the event
  associated with this row in the event configuration table. This value is
  used in the event log table to organize various events defined in this
  table into logical groupings. This value shall not exceed the
  maxEventClasses object value.

  <Supplanted by> ISO26048-1-Log.fdLogEventFactoryLogName (ISO 26048-1)

  <Informative> The event cannot be logged if the EventClass has an
  eventClassLimit of zero (0).
  The replacement object specifies an SnmpAdminString

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.2.1.2"

DEFVAL     { 1 }
::= { eventLogConfigEntry 2 }
```

11.2.4.3 Event Log Configuration Mode Parameter

```
eventConfigMode OBJECT-TYPE
SYNTAX     INTEGER { other (1),
                     onChange (2),
                     greaterThanValue (3),
                     smallerThanValue (4),
                     hysteresisBound (5),
                     periodic (6),
                     andedWithValue (7) }
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object specifies the mode of operation for this event.

  <Format> The modes are defined as follows:


           Value             Description
```


other	the event mode of operation is not described in this standard, refer to the device manual.
onChange	create a log entry when the object value referenced by eventConfigCompareOID changes. The values of eventConfigCompareValue and eventConfigCompareValue2 are ignored in this mode.
greaterThanValue	create a log entry when the object value referenced by eventConfigCompareOID becomes greater than the value of eventConfigCompareValue for the time (tenth seconds) defined by eventConfigCompareValue2 (zero means immediate logging).
smallerThanValue	create a log entry when the object value referenced by eventConfigCompareOID becomes less than the value of eventConfigCompareValue for the time (tenth seconds) defined by eventConfigCompareValue2 (zero means immediate logging).
hysteresisBound	create a log entry when the object value referenced by eventConfigCompareOID becomes less than or greater than the bound values. The lowerbound value is the lower value of eventConfigCompareValue and eventConfigCompareValue2; the upperbound value is the higher value of the two values. When the object value becomes greater than the upper bound value, subsequent logging of upperbound conditions shall not occur until the object value becomes less than the lower bound value.

```
                        When the object value becomes less than
                        the lower bound value, subsequent logging
                        of lowerbound conditions shall not occur
                        until the object value becomes greater
                        than the upper bound value.
          Periodic      create a log entry every x seconds, where
                        x is defined by the value stored in
                        eventConfigCompareValue. The values stored
                        in eventConfigCompareValue2 and
                        eventConfigCompareOID are ignored in this
                        mode.
          andedWithValue create a log entry when the object value
                        referenced by eventConfigCompareOID ANDED
                        with the value of eventConfigCompareValue
                        is NOT equal to zero for the time (tenth
                        seconds) defined by eventConfigCompareValue2
                        (zero means immediate logging). This allows
                        monitoring of a specific bit; the condition
                        becomes true anytime that any one of the
                        selected bits become true.

  <Supplanted by> ISO26048-1-CondTrigger.fdCondTriggerMode (ISO 26048-1)

  <Informative> The replacement object adds the following modes: - equal -
  not equal - on creation (i.e., creation of a new row in a table) - on
  deletion - separate modes for octet string and integer bitwise operations

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.2.1.3"

DEFVAL     { onChange }
::= { eventLogConfigEntry 3 }
```

11.2.4.4 Event Log Configuration Compare Value Parameter

```
eventConfigCompareValue OBJECT-TYPE
SYNTAX     Integer32
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the comparison value to use with
  eventConfigMode values (greaterThanValue, smallerThanValue, hysteresisBound
  ). No value within this object is necessary when the eventConfigMode-object
  has the value onChange (2).

  <Supplanted by> ISO26048-1-CondTrigger.fdCondTriggerValue &
  fdCondTriggerValueOctet (ISO 26048-1)

  <Informative> The interger-based replacement object conforms to SNMPv3
  rules and does not allow the specification of a 64-bit value and requires
```



```
  integers to be defined as either signed or unsigned.
  eventConfigCompareValue is perhaps ambiguous about this, although SNMPv1
  conventions dictate the same functionality. The result is that the current
  design does not allow for comparing large unsigned integer values.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.2.1.4"

DEFVAL     { 0 }
::= { eventLogConfigEntry 4 }
```

11.2.4.5 Event Log Configuration Compare Value 2 Parameter

```
eventConfigCompareValue2 OBJECT-TYPE
SYNTAX     Integer32
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>If the eventConfigMode is set to hysteresisBound, this object
  specifies the second comparison value for the hysteresis. If the
  eventConfigMode is set to greaterThanValue, smallerThanValue, or
  andedWithValue, this object specifies the time (in tenths of seconds, +1
  tenth / -0 tenths) for which the samples used for comparison shall be true
  prior to the event condition becoming true. If the eventConfigMode is set
  to onChange or periodic, the value of this object shall be ignored.
  The amount of time the condition shall be true is measured in tenths of a
  second. The accuracy of this timer is limited to +1 tenth of a second and:0
  tenths of a second. If the event is true for at least the time shown in
  this parameter +1 tenth of a second, the condition shall trigger a log
  entry. It is recognized that some designs only sample the condition
  periodically, in which case the condition shall be true for at least the
  time indicated by this object before the event becomes true and the event
  shall always become true if the condition is true for a duration equal to
  the value shown in this object plus 1 tenth of a second.

  <Supplanted by> ISO26048-1-CondTrigger.fdCondTriggerValue2 (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.2.1.5"

DEFVAL     { 0 }
::= { eventLogConfigEntry 5 }
```

11.2.4.6 Event Log Configuration Compare Object Identifier Parameter

```
eventConfigCompareOID OBJECT-TYPE
SYNTAX     VariablePointer
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object contains the object identifier which references
  the value against which the comparison is made. If the eventConfigMode is
  set to periodic, the value of this object shall be ignored. If the
  eventConfigMode is set to greaterThanValue, smallerThanValue or
  hysteresisBound, this object shall reference an object whose SYNTAX
  resolves to a ranged or unranged INTEGER. As with all other objects that
  are sub-ranged by a given implementation, an agent should return a badValue
  error if it receives a set command indicating a OID which is not supported
  by the implementation or which is not zeroDotZero.

  <Supplanted by> ISO26048-1-CondTrigger.fdCondTriggerObject (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.2.1.6"

DEFVAL     { zeroDotZero }
```

```
::= { eventLogConfigEntry 6 }
```

11.2.4.7 Event Log Configuration Log Object Identifier Parameter

```
eventConfigLogOID OBJECT-TYPE
SYNTAX     VariablePointer
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the object identifier which indicates
  what value to log when a condition or event occurs (e.g., log the phase
  display when the watchdog alarm status changes). As with all other objects
  that are sub-ranged by a given implementation, an agent should return a
  badValue error if it receives a set command indicating a value which is not
  supported by the implementation. The valid value range of this object shall
  not include any values, other than zeroDotZero, that do not correspond to
  objects that may exist within the agent, although it may be further
  restricted.
  The valid value range of this object shall not include objects under the
  following nodes: Security - { nema transportation devices global security }
  CHAP - { nema transportation protocols layers chap }

  <Supplanted by> ISO26048-1-Log.fdLogEventFactoryObjectID (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.2.1.7"

DEFVAL     { zeroDotZero }
::= { eventLogConfigEntry 7 }
```

11.2.4.8 Event Log Configuration Action Parameter

```
eventConfigAction OBJECT-TYPE
SYNTAX     INTEGER { other (1),
                     disabled (2),
                     log (3) }
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>The value of this object indicates what action shall take
  place when this event occurs.

  <Format>
  Other - indicates that the action is other than defined in this standard.
  This value exists in order to support proprietary event logging mechanisms
  configured by other means not specified in this standard. If this value is
  used in a SET request, the agent shall respond with a badValueError.
  Disabled - no event log entry shall be generated or recorded due to this
  event. In an agent complying with NTCIP 1103 v03 or later, this event shall
  not be used to trigger NTCIP traps, nor to construct NTCIP trap messages.
  Log - an event log entry shall be generated when this event occurs. In an
  agent complying with NTCIP 1103 v03 and later, this may trigger an NTCIP
  trap (see the eventConfigID index element of trapTable). If
  eventConfigClass refers to an eventClassTable row having eventClassLimit =
  0, the log entry's eventLogValue shall be used to construct any necessary
  trap messages implied by the associated trapTable rows, but the log entry
  shall then be discarded and not added to the eventLogTable. If the
  eventClassLimit is greater than zero, the log entry shall be added to the
  eventLogTable, subject to the constraints imposed by the associated
  eventConfigClass.
```



```
  <Supplanted by> ISO26048-1-CondTrigger.fdCondTriggerActionOwner,
  fdCondTriggerAction, fdCondTriggerActionOwner2, & fdCondTriggerAction2 (ISO
  26048-1)

  <Informative> The replacement object points to a table that can point to
  multiple actions. For example, a single trigger can result in both a log
  entry and a notification.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.2.1.8"

DEFVAL     { disabled }
::= { eventLogConfigEntry 8 }
```

11.2.4.9 Event Log Configuration Status Parameter

```
eventConfigStatus OBJECT-TYPE
SYNTAX     INTEGER { other (1),
                     disabled (2),
                     log (3),
                     error (4) }
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The value of this object indicates the current status of the
  configured event. Upon setting any object in this row of the
  eventLogConfigTable, the agent will determine if the setting is valid and
  will set this object to one of the following states:
  other indicates that the action is successfully set to a mode other than
  that defined in this standard
  disabled indicates that the action is set to disabled
  log indicates that the action is successfully set to the log state after
  passing consistency checks.
  error indicates that the requested action could not be implemented due to a
  consistency check

  <Supplanted by> ISO26048-1-CondTrigger.fdCondTriggerRowStatus (ISO 26048-1)
  & ISO26048-1-Log.fdLogEventFacoryRowStatus (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.2.1.9"

::= { eventLogConfigEntry 9 }
```

11.2.5 Maximum Event Log Size Parameter

```
maxEventLogSize OBJECT-TYPE
SYNTAX     Integer32 (1..65535)
UNITS      "events"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The maximum, fixed number of rows that can be utilized within
  the eventLogTable.

  <Supplanted by> ISO26048-1-Log.fdLogsGlobalEntryLimit and
  fdLogsGlobalSizeLimit (ISO 26048-1)

  <Informative> The replacement objects are for all managers.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.3"

::= { globalReport 3 }
```

11.2.6 Event Log Table

```
eventLogTable OBJECT-TYPE
```

```
SYNTAX     SEQUENCE OF EventLogEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>A table containing Event History data collected. A request for
  an object from a row that has not been instantiated or has been cleared
  shall return a noSuchName error.

  <Table Type> dynamic

  <Supplanted by> ISO26048-1-Log.fdLogTable (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.4"

::= { globalReport 4 }

eventLogEntry OBJECT-TYPE
SYNTAX     EventLogEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>This object defines an entry in the event log Table.

  <Supplanted by> ISO26048-1-Log.fdLogEntry (ISO 26048-1)

  <Informative> EventLogTable was modified in NTCIP 1103 v03 to add an entry
  eventLogTimeMilliseconds Integer, which did not exist in NTCIP 1103 v02.
  The replacement table precedes the class/manager and number indicies With
  an owner so that access to information in the table can be controlled with
  proper configuration of the SNMP agent. The replacement table also records
  both the date and time of the event and the date and time that the event
  was placed into the table (i.e., so that if there is latency, a command to
  clear the table does not inadvertently delete rows that had occurred but
  had not been entered into the table.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.4.1"

INDEX      { eventLogClass, eventLogNumber }
::= { eventLogTable 1 }

EventLogEntry ::= SEQUENCE {
        eventLogClass            Integer32,
        eventLogNumber           Integer32,
        eventLogID               Integer32,
        eventLogTime             Unsigned32,
        eventLogValue            Opaque,
        eventLogTimeMilliseconds Integer32}
```

11.2.6.1 Event Log Class Parameter

```
eventLogClass OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the class of the associated event as
  defined in the eventLogConfig Table.

  <Supplanted by> ISO26048-1-Log.fdLogManagerOwner & fdLogManagerName (ISO
  26048-1)

  <Informative> The replacement objects are SnmpAdminStrings
```



```
  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.4.1.1"

::= { eventLogEntry 1 }
```

11.2.6.2 Event Log Number Parameter

```
eventLogNumber OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The event number within this class for this event. Event
  numbers shall be assigned starting at 1 and shall increase to the value
  specified by the associated eventClassLimit for the class associated with
  the rows. Events shall maintain a chronological ordering in the table with
  the oldest event of a class occupying the row with eventNumber = 1, and
  subsequent events filling subsequent rows. This ordering shall be
  maintained for those rows still remaining when events are cleared.

  <Supplanted by> ISO26048-1-Log.fdLogIndex (ISO 26048-1)

  <Informative> The replacement object is an Unsigned32

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.4.1.2"

::= { eventLogEntry 2 }
```

11.2.6.3 Event Log ID Parameter

```
eventLogID OBJECT-TYPE
SYNTAX     Integer32 (1..65535)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the event configuration ID (from the
  eventLogConfigTable) that caused this table entry. It indicates the row in
  the eventLogConfig table responsible for this event entry.

  <Supplanted by> ISO26048-1-Log.fdLogFactoryName (ISO 26048-1)

  <Informative> The replacement object is an SnmpAdminString

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.4.1.3"

::= { eventLogEntry 3 }
```

11.2.6.4 Event Log Time Parameter

```
eventLogTime OBJECT-TYPE
SYNTAX     Unsigned32
UNITS      "seconds"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The time that the event was detected. If the device supports
  the globalTime object, the value shall reflect the value of globalTime when
  the event occurred, otherwise this shall be the time in seconds since the
  device powered up. The event shall be detected and timestamped within one
  second from the event becoming true. The event shall be logged in the table
  within five seconds of the event being detected. These timing resolutions
  may be modified by a device profile.

  <Supplanted by> ISO26048-1-Log.fdLogEventDate, fdLogEventTime, fdLogDate,
  fdLogTime (ISO 26048-1)
```

```
  <Informative> This SMIv2 representation of the original SMIv1 object uses
  an Unsigned32 syntax rather than the original Counter syntax because the
  definition of the object does not meet the semantics defined for a Counter
  object. As a result, this object will have a different value in the 'type'
  field in the BER encoding when transmitted using SNMPv3 (and using SMIv2)
  than when transmitted using SNMPv1 (and using the SMIv1 definition). The
  superseding objects adopt the new time format. They also distinguish
  between event time and log time.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.4.1.4"

::= { eventLogEntry 4 }
```

11.2.6.5 Event Log Value Parameter

```
eventLogValue OBJECT-TYPE
SYNTAX     Opaque
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The value of this object is set to the BER encoding of the
  value referenced by the eventConfigLogOID of the associated eventLogID when
  the event was logged. Its length is variable. The value shall not contain
  any padding characters either before or after the values. NOTE: Opaque
  objects are doubly wrapped. For SNMP operations, which use BER, this would
  be {type, length, {type, length, value}}. For example, a zero-length octet
  string, would be encoded in BER as 0x44 02 04 00. For STMP or SFMP
  operations, which use OER, this would be { length, {type, length, value}}.
  For example, the same example would be encoded in OER as 0x02 04 00.

  <Supplanted by> ISO26048-1-Log.fdLogValue (ISO 26048-1)

  <Informative> The replacement object uses an ITSOerString (i.e., the value
  is in OER and sent over SNMP with a BER wrapper as opposed to the Opaque
  which created a double BER wrapper). This means that the manager who
  requests the value must know the syntax that was encoded.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.4.1.5"

::= { eventLogEntry 5 }
```

11.2.6.6 Event Log Time Milliseconds Parameter

```
eventLogTimeMilliseconds OBJECT-TYPE
SYNTAX     Integer32 (0..999)
UNITS      "milliseconds"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The number of milliseconds after the beginning of the second
  indicated by the value of eventLogTime at which the event was detected.
  Devices that do not support sub-second event time resolution shall always
  set this object to zero. When implementing eventLogTimeMilliseconds,
  devices require a time source with millisecond-level resolution, such as
  GPS or TIA (International Atomic Time).

  <Supplanted by> ISO26048-1-Log.fdLogEventTime, fdLogTime

  <Informative> This data content is covered by the new time format used by
  ISO26048-1-Log.fdLogEventTime & fdLogTime (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.4.1.6"

::= { eventLogEntry 6 }
```


11.2.7 Total Event Log Counter Parameter

```
numEvents OBJECT-TYPE
SYNTAX     Integer32 (0..65535)
UNITS      "events"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object is a counter that gets incremented every time an
  event occurs and shall initialize to zero at power up. The value shall roll
  over each time it exceeds the maximum of 65535.

  <Supplanted by> ISO26048-1-Log.fdLogsTotalLogged (ISO 26048-1)

  <Informative> The replacement object uses a syntax of Counter32, which does
  not require a zero-base.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.7"

::= { globalReport 7 }
```

11.2.8 Event Log Time Latency Parameter

```
eventTimeLatency OBJECT-TYPE
SYNTAX     Integer32 (0..1000)
UNITS      "milliseconds"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object indicates the maximum amount of time, in
  milliseconds, that may elapse between an event's occurrence and the time
  reported for that event entry in the eventLogTable. This is a global,
  constant value that reports the capability of the device with respect to
  event-reporting latency. It should account for all sources of latency,
  including both hardware and firmware delays. If eventTimeLatency has a
  value of L, this means that any event in the eventLogTable may actually
  have occurred up to L milliseconds prior to the time reported by the
  eventLogTime and eventLogTimeMilliseconds values associated with the event.
  A value of 0 indicates that the device reports accurate event times with
  millisecond resolution. A value of 1000 indicates that the device cannot
  accurately report sub-second event times.

  <Supplanted by> ISO26048-1-Log.fdLogsRecordingLatency (ISO 26048-1)

  <Informative> The replacement object places limits on the time between
  retrieving the value to log and the logging rather than what is described
  here.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.4.8"

::= { globalReport 8 }
END
```

Section 12 DEPRECATED SECURITY MIB

The text provided from Section 12.1 through the end of Section 12 (except the headings) constitutes the standard NTCIP1201-Security MIB.

**** All objects contained in this MIB are deprecated. ****

12.1 HEADER

```
NTCIP1201-Security DEFINITIONS ::= BEGIN
IMPORTS
MODULE-IDENTITY, OBJECT-TYPE, OBJECT-IDENTITY, Integer32, Gauge32
                                                        FROM SNMPv2-SMI
                                                          -- RFC 2578
global
                                                        FROM NTCIP1201-Global;

security MODULE-IDENTITY
LAST-UPDATED "20230701145436Z"
ORGANIZATION "NTCIP BSP2 WG"
CONTACT-INFO
  "name: NTCIP Coordinator
   email:  ntcip@nema.org
   postal: National Electrical Manufacturers Association
           1300 North 17th Street, Suite 1752
           Rosslyn, Virginia 22209-3801"
DESCRIPTION
  "<Definition> This MIB defines the SMIv2 representation of the
  NTCIP1103v0352-Security MIB, which was defined in NTCIP 1103. This MIB
  defines objects related to managing the configuration of community names
  and associated access rights for SNMPv1 packets.
  This MIB was deprecated in NTCIP 1201 v04 due to security limitations of
  SNMPv1. The objects contained in this MIB are no longer relevant as
  Security is now based on (D)TLS certificates combined with SNMP
  securityNames as defined in the Transport Security Model (RFC 5591) and the
  TLS Transport Model (RFC 6353). However, this MIB defines how to exchange
  this data to enable a manager to remotely manage these objects through a
  proxy agent.
  *** All objects in this MIB have been deprecated. ***

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.5"

REVISION "20230701145436Z"
DESCRIPTION
  "NTCIP 1201 v04 - Upgraded format to SMIv2 and deprecated all objects."

REVISION "201612310000Z"
DESCRIPTION
  "NTCIP 1103 v03 - No change."

REVISION "200903310000Z"
DESCRIPTION
  "NTCIP 1103 v02 - Separated into its own MIB."

REVISION "200409270000Z"
DESCRIPTION
  "NTCIP 1103 v01: Original version."
```



```
::= { global 5 }
```

12.2 OBJECTS

12.2.1 Community Name Administrator Parameter

```
communityNameAdmin OBJECT-TYPE
SYNTAX     OCTET STRING (SIZE(8..16))
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object is the community name that shall be used to
  specifically gain access to information under the security node. A message
  with this value in the community name field of an SNMP message has user
  read-write access to the security node objects and all other objects
  implemented in the device. The syntax is defined as an OCTET STRING and
  therefore any character can have a value of 0..255.

  <Informative> This object has been deprecated along with the use of SNMPv1.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.5.1"

DEFVAL     { "administrator" }
::= { security 1 }
```

12.2.2 Maximum Community Names Parameter

```
communityNamesMax OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object specifies the maximum number of rows that are
  implemented in the community name table.

  <Informative> This object has been deprecated along with the use of SNMPv1.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.5.2"

::= { security 2 }
```

12.2.3 Community Names Table

```
communityNameTable OBJECT-TYPE
SYNTAX     SEQUENCE OF CommunityNameTableEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> This table defines the community names that can appear in the
  community name field of the SNMP message and access privileges associated
  with that community name.

  <Table Type> static

  <Informative> This object has been deprecated along with the use of SNMPv1.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.5.3"

::= { security 3 }

communityNameTableEntry OBJECT-TYPE
SYNTAX     CommunityNameTableEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
```

```
  "<Definition> This is the row index of information in the community name
  table.

  <Informative> This object has been deprecated along with the use of SNMPv1.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.5.3.1"

INDEX      { communityNameIndex }
::= { communityNameTable 1 }

CommunityNameTableEntry ::= SEQUENCE {
        communityNameIndex       Integer32,
        communityNameUser        OCTET STRING,
        communityNameAccessMask  Gauge32}
```

12.2.3.1 Community Name Index Parameter

```
communityNameIndex OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object defines the row index into the
  communityNameTable. This value shall not exceed the communityNamesMax
  object value.

  <Informative> This object has been deprecated along with the use of SNMPv1.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.5.3.1.1"

::= { communityNameTableEntry 1 }
```

12.2.3.2 User Community Name Parameter

```
communityNameUser OBJECT-TYPE
SYNTAX     OCTET STRING (SIZE(6..16))
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object defines a community name value that a security
  administrator can assign user read-write access to information (other than
  security) in a device. A message with this value in the community name
  field of an SNMP/SFMP message has user access rights as defined in the
  communityNameAccessMask. The syntax is defined as an OCTET STRING and
  therefore any character can have a value of 0..255.

  <Informative> This object has been deprecated along with the use of SNMPv1.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.5.3.1.2"

DEFVAL     { "public" }
::= { communityNameTableEntry 2 }
```

12.2.3.3 User Community Name Mask Parameter

```
communityNameAccessMask OBJECT-TYPE
SYNTAX     Gauge32
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object defines a 32 bit mask that can be used to
  associate 'write access' with a community name. A value of 0x00 00 00 00
  grants the community name user read-only access and overrides any
  individual object's read-write access clause. A value of 0xFF FF FF FF
```



```
  grants the community name user read-write access and an individual object's
  read-write access clause applies. Values other than 0x00 00 00 00 and 0xFF
  FF FF FF are implementation specific and may limit viewing and/or accessing
  the information in a device.

  <Informative> This object has been deprecated along with the use of SNMPv1.

  <Object Identifier> 1.3.6.1.4.1.1206.4.2.6.5.3.1.3"

DEFVAL     { 4294967295 }
::= { communityNameTableEntry 3 }
END
```

Section 13 DEPRECATED TRAP MIB

The text provided from Section 13.1 through the end of Section 13 (except the headings) constitutes the standard NTCIP1201-NtcipTraps MIB.

**** All objects contained in this MIB are deprecated. ****

13.1 HEADER

```
NTCIP1201-NtcipTraps DEFINITIONS ::= BEGIN
IMPORTS
MODULE-IDENTITY, OBJECT-IDENTITY, OBJECT-TYPE, NOTIFICATION-TYPE,
Integer32, Counter32, zeroDotZero
                                                FROM SNMPv2-SMI
                                                -- RFC 2578
ITSOerString
                                                FROM ISO26048-1-FieldDevice
application, protocols, NtcipRowStatusStatic
                                                FROM NTCIP8004-Transportation
eventConfigID
                                                FROM NTCIP1201-GlobalReport;

ntcipTraps MODULE-IDENTITY
LAST-UPDATED "20230701145436Z"
ORGANIZATION "NTCIP BSP2 WG"
CONTACT-INFO
  "name: NTCIP Coordinator
   email:  ntcip@nema.org
   postal: National Electrical Manufacturers Association
           1300 North 17th Street, Suite 1752
           Rosslyn, Virginia 22209-3801"
DESCRIPTION
  "<Definition> This MIB defines the SMIv2 representation of the
  NTCIP1103v0352-Traps MIB, which was defined in NTCIP 1103. This MIB defines
  objects related to:
  (a) configuration of block and watch objects,
  (b) configuration and monitoring of traps
  This MIB was deprecated in NTCIP 1201 v04 due to security issues in the
  structure of the MIB. The objects have been replaced by objects in ISO
  26048-1.
  *** All objects in this MIB have been deprecated. ***

  <Informative> In addition to the objects mentioned below, the replacement
  feature includes objects to indicate: a) the encodings supported (BER
  and/or OER) b) whether there are limitations on the support for structures
  that allow new values (i.e., set operations) c) whether the supports one-
  step processing, two-step processing, or both

  The watchBlock and reportBlock features are replaced by the same fdDynObj
  feature defined in ISO 26048-1.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4"

REVISION "20230701145436Z"
DESCRIPTION
  "NTCIP 1201 v04 - Upgraded format to SMIv2 and deprecated all objects."
```



```
REVISION "201612310000Z"
DESCRIPTION
  "NTCIP 1103 v03 - No change."

REVISION "200903310000Z"
DESCRIPTION
  "NTCIP 1103 v02 - Separated into its own MIB."

REVISION "200409270000Z"
DESCRIPTION
  "NTCIP 1103 v01: Original version."

::= { protocols 4 }
```

13.2 OBJECT IDENTITIES

13.2.1 Watch Blocks

```
watchBlocks OBJECT-IDENTITY
STATUS     deprecated
DESCRIPTION
  "<Definition> Watch Blocks are OER encoded configurable read only blocks
  intended to be utilized for device status monitoring in the
  eventConfigCompareOID in the eventConfigTable. The intent is to be able to
  configure events to monitor a collection of NTCIP objects at the same time,
  and trigger the logging and/or transmission of a trap message.

  <Informative> When a watch block is used for the eventConfigCompareOID, the
  eventConfigMode object is restricted to onChange (2) Any entry with an
  attempt to use any other mode shall be ignored at run time. Because there
  is no restriction on the order in which the entries are created, specifying
  a watch block that has not been configured does not generate an error.
  Likewise care should be taken to ensure that the configuration of the event
  table and the watch blocks (as well as the report blocks) are consistent
  and correct.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.6"

::= { application 6 }
```

13.2.2 Report Blocks

```
reportBlocks OBJECT-IDENTITY
STATUS     deprecated
DESCRIPTION
  "<Definition> Report blocks are OER encoded configurable read only blocks
  intended to be utilized for device status and other parameters as the
  eventConfigLogOID in the eventConfigTable. Like the watch blocks, they can
  only be validated at run-time. Improperly configured report blocks shall be
  ignored.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.7"

::= { application 7 }
```

13.2.3 Clear Objects

```
eventClearObjects OBJECT-IDENTITY
STATUS     deprecated
DESCRIPTION
  "<Definition> This node is an identifier used to group all objects for
  support of clearing the report node (events) and report objects.
```

```
  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.8"
::= { application 8 }
```

13.2.4 NTCIP Trap Management

```
trapMgmt OBJECT-IDENTITY
STATUS     deprecated
DESCRIPTION
  "<Definition> This node defines information used to manage the generation
  and issuance of traps.
  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1"
::= { ntcipTraps 1 }
```

13.2.5 NTCIP Trap Data

```
ntcipTrapData OBJECT-IDENTITY
STATUS     deprecated
DESCRIPTION
  "<Definition> This node defines information to be reported by the trap
  management feature.
  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.2"
::= { ntcipTraps 2 }
```

13.2.6 NTCIP Trap Notifications

```
ntcipTrapNotifications OBJECT-IDENTITY
STATUS     deprecated
DESCRIPTION
  "<Definition> This node defines trap information to be reported by the trap
  management feature.
  <Informative> SMIv2 defines notifications, which can be sent as
  unacknowledged 'traps' or acknowledged 'informs'. The SMIv2 NOTIFICATION-
  TYPE macro registers traps on the naming tree and per RFC 4181, to provide
  backward compatibility the OID of a notification should be the SNMPv1
  'enterprise' followed by a node '0' followed by the number assigned to the
  SMIv1 trap. This node provides the prefix to define such notifications.
  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.2.0"
::= { ntcipTrapData 0 }
```

13.3 WATCH BLOCKS

13.3.1 Maximum Watch Objects

```
maxWatchObjects OBJECT-TYPE
SYNTAX     Integer32 (150..8192)
UNITS      "watch objects"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The number of rows that exist in the
  watchObjectDefinitionTable for this device.
  <Supplanted by> ISO26048-1-DynObj.fdDynObjsMaxObjects (ISO 26048-1)
```



```
  <Informative> The watchObjectDefinitionTable has been replaced with a
  dynamic table, which does not require an object indicating the maximum
  number of rows; however, the replacement object allows implementations to
  impose a limit on the size of block objects and to inform the user of the
  limit.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.6.1"

::= { watchBlocks 1 }
```

13.3.2 Maximum Watch Blocks

```
maxWatchBlocks OBJECT-TYPE
SYNTAX     Integer32 (1..50)
UNITS      "watch blocks"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The number of rows that exist in the watchBlockTable for this
  device.

  <Informative> The watchBlockTable has been replaced with a dynamic table,
  which does not require an object indicating the maximum number of rows.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.6.2"

::= { watchBlocks 2 }
```

13.3.3 Watch Object Definition Table

```
watchObjectDefinitionTable OBJECT-TYPE
SYNTAX     SEQUENCE OF WatchObjectDefinitionEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>A table containing Watch Object definition information. The
  number of rows in this table is equal to the maxWatchObjects object.

  <Table Type> static

  <Supplanted by> ISO26048-1-DynObj.fdDynObjFieldTable (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.6.3"

::= { watchBlocks 3 }

watchObjectDefinitionEntry OBJECT-TYPE
SYNTAX     WatchObjectDefinitionEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>This object defines an entry in the Watch Object Definition
  table.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjFieldEntry (ISO 26048-1)

  <Informative> The replacement table has a three-part index consisting of a
  group owner (which provides a level of protection from other users from
  changing the definition without authorization), a group name (which is
  functionally equivalent to watchBlock), and field index (which is
  functionally equivalent to watchID).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.6.3.1"

INDEX      { watchID }
```

```
::= { watchObjectDefinitionTable 1 }

WatchObjectDefinitionEntry ::= SEQUENCE {
        watchID     Integer32,
        watchStatus NtcipRowStatusStatic,
        watchBlock  Integer32,
        watchOID    OBJECT IDENTIFIER}
```

13.3.3.1 Watch Identification Parameter

```
watchID OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the row number which is used to identify
  the object associated with this row in the watchObjectDefinitionTable. This
  value shall not exceed the value indicated by the maxWatchObjects object.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjFieldIndex

  <Informative> The replacement object is the third part of a three-part
  index and is defined as an Unsigned32.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.6.3.1.1"

::= { watchObjectDefinitionEntry 1 }
```

13.3.3.2 Watch Status Parameter

```
watchStatus OBJECT-TYPE
SYNTAX     NtcipRowStatusStatic
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>The value of this object indicates the current status of the
  this row in the table.

  <Informative> The replacement table does not have a RowStatus object; when
  changes are necessary, the entire object needs to be cleared and redefined.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.6.3.1.2"

DEFVAL     { invalid }
::= { watchObjectDefinitionEntry 2 }
```

13.3.3.3 Watch Block Parameter

```
watchBlock OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the block number to assign to the watch
  object associated with this row in the watch object definition table. This
  value shall not exceed the value indicated by the maxWatchBlocks object.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjName (ISO 26048-1)

  <Informative> The replacement object is the second part of a three- part
  index and is defined as an SnmpAdminString (SIZE(0..32))

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.6.3.1.3"

DEFVAL     { 1 }
```



```
::= { watchObjectDefinitionEntry 3 }
```

13.3.3.4 Watch Object Identifier Parameter

```
watchOID OBJECT-TYPE
SYNTAX     OBJECT IDENTIFIER
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the object identifier of the object to
  watch.
  The following objects shall NOT be assigned to any watchOID:
  - All objects under the security node (Annex B) { nema transportation
  devices global security }
  - All objects under the dynObjMgmt node (Annex A) {nema transportation
  protocols dynObjMgmt}
  - All objects under the chap node (Annex B of NTCIP 2301) { nema
  transportation protocols layers chap }
  - Any objects so identified by various device standards
  - Any objects whose SYNTAX does NOT resolve to a ranged or unranged
  INTEGER.
  - Any other report object or watch object
  - Any objects that the agent/device does not support.
  An agent should return a badValue error if it receives a SET command for
  any of the above.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjFieldObject (ISO 26048-1)

  <Informative> The replacement object does not define any restrictions
  currently.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.6.3.1.4"

DEFVAL     { zeroDotZero }
::= { watchObjectDefinitionEntry 4 }
```

13.3.4 Watch Block Table

```
watchBlockTable OBJECT-TYPE
SYNTAX     SEQUENCE OF WatchBlockEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> A table containing the Watch Blocks defined in the Watch
  Object Definition table. The number of rows in this table is equal to the
  value of the maxWatchBlocks object.

  <Table Type> static

  <Supplanted by> ISO26048-1-DynObj.fdDynObjTable (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.6.4"

::= { watchBlocks 4 }

watchBlockEntry OBJECT-TYPE
SYNTAX     WatchBlockEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>This defines a row in the watchBlockTable.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjEntry (ISO 26048-1)
```

```
  <Informative> The replacement table has a dual index consisting of an owner
  and a group name. The table has the following changes:
  - the encoding can be selected (BER or OER)
  - the ObjectGroup can be configured for retrieval as either a one- step or
  two-step process. In other words, one-step groups can be retrieved
  directly; two-step groups have to be refreshed in one command and retrieved
  in a second command.
  - there is a refresh command and a refresh date/time associated with the
  two-step process. There is also an object that provides an estimated
  duration for generating the result (which can be as simple as a duration
  multiplied by the number of objects)
  - there is a 'new value' object that allows setting the referenced objects
  (i.e., similar to a dynObj set command)
  - there are 'last error' and 'last error index' objects to provide insights
  into any issues that arise
  - there is a 'clear' object that allows clearing the definition of all
  fields defined for the object group
  - Added an indication of the type of storage to use
  - the table is dynamic with a RowStatus object.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.6.4.1"

INDEX      { watchBlockNumber }
::= { watchBlockTable 1 }

WatchBlockEntry ::= SEQUENCE {
        watchBlockNumber      Integer32,
        watchBlockStatus      NtcipRowStatusStatic,
        watchBlockDescription OCTET STRING,
        watchBlockValue       ITSOerString}
```

13.3.4.1 Watch Block Number

```
watchBlockNumber OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The block number for this row in the table. This value shall
  not exceed the value indicated by the maxWatchBlocks object.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjName (ISO 26048-1)

  <Informative> The replacement object is the second part of a two-part index
  and is defined as an SnmpAdminString.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.6.4.1.1"

::= { watchBlockEntry 1 }
```

13.3.4.2 Watch Block Status

```
watchBlockStatus OBJECT-TYPE
SYNTAX     NtcipRowStatusStatic
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>The value of this object indicates the current status of this
  row in the table.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjRowStatus (ISO 26048-1)
```



```
  <Informative> The replacement object uses RowStatus to support a dynamic
  table

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.6.4.1.2"

DEFVAL     { invalid }
::= { watchBlockEntry 2 }
```

13.3.4.3 Watch Block Description

```
watchBlockDescription OBJECT-TYPE
SYNTAX     OCTET STRING (SIZE(0..20))
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object may be used to define a description of this watch
  block.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjDescription (ISO 26048-1)

  <Informative> The replacement object is defined as an SnmpAdminString to
  support any language with automatic display as text.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.6.4.1.3"

DEFVAL     { "" }
::= { watchBlockEntry 3 }
```

13.3.4.4 Watch Block Value

```
watchBlockValue OBJECT-TYPE
SYNTAX     ITSOerString
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> An OER encoded string of all object values defined in
  watchObjectDefinitionTable, pointed at by watchOID (in watchID order) where
  the watchBlock IS watchBlockNumber AND the watchStatus IS available.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjCurrentValue (ISO 26048-1)

  <Informative> The original syntax for this object was OerString as defined
  in NTCIP 8004 v02. NTCIP 8004 v03 recommends the use of ITSOerString in
  SMIv2 modules as it is formally defined as a textual convention in ISO
  26048-1. Both OerString and ITSOerString resolve to OCTET STRING, so while
  the written syntax has changed, there is no impact on how it is encoded.
  The replacement object, fdObjectGroupCurrentValue, is defined as an OCTET
  STRING because it can represent either an OER-string or a BER- string
  depending on the value of fdObjectGroupEncoding.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.6.4.1.4"

DEFVAL     { ''H }
::= { watchBlockEntry 4 }
```

13.4 REPORT BLOCKS

13.4.1 Maximum Report Objects

```
maxReportObjects OBJECT-TYPE
SYNTAX     Integer32 (150..8192)
UNITS      "report objects"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
```

```
  "<Definition>The number of rows that exist in the
  reportObjectDefinitionTable for this device.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjsMaxObjects (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.7.1"

::= { reportBlocks 1 }
```

13.4.2 Maximum Report Blocks

```
maxReportBlocks OBJECT-TYPE
SYNTAX     Integer32 (1..50)
UNITS      "report blocks"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The number of rows that exist in the reportBlockTable for this
  device.

  <Informative> The watchBlockTable has been replaced with a dynamic table,
  which does not require an object indicating the maximum number of rows.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.7.2"

::= { reportBlocks 2 }
```

13.4.3 Report Object Configuration Table

```
reportObjectDefinitionTable OBJECT-TYPE
SYNTAX     SEQUENCE OF ReportObjectDefinitionEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>A table containing Report Object definition information. The
  number of rows in this table is equal to the maxReportObjects object.

  <Table Type> static

  <Supplanted by> ISO26048-1-DynObj.fdDynObjFieldTable (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.7.3"

::= { reportBlocks 3 }

reportObjectDefinitionEntry OBJECT-TYPE
SYNTAX     ReportObjectDefinitionEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>This object defines an entry in the Report Object Definition
  table.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjFieldEntry (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.7.3.1"

INDEX      { reportID }
::= { reportObjectDefinitionTable 1 }

ReportObjectDefinitionEntry ::= SEQUENCE {
        reportID     Integer32,
        reportStatus NtcipRowStatusStatic,
        reportBlock  Integer32,
        reportOID    OBJECT IDENTIFIER}
```


13.4.3.1 Report Identification Parameter

```
reportID OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the row number which is used to identify
  the objects associated with this row in the reportObjectDefinitionTable.
  This value shall not exceed the value indicated by the maxReportObjects
  object.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjFieldIndex (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.7.3.1.1"

::= { reportObjectDefinitionEntry 1 }
```

13.4.3.2 Report Status Parameter

```
reportStatus OBJECT-TYPE
SYNTAX     NtcipRowStatusStatic
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>The value of this object indicates the current status of the
  this row in the table.

  <Informative> The replacement table does not have a RowStatus object; when
  changes are necessary, the entire object needs to be cleared and redefined.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.7.3.1.2"

DEFVAL     { invalid }
::= { reportObjectDefinitionEntry 2 }
```

13.4.3.3 Report Block Parameter

```
reportBlock OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the block number to assign to the log
  object associated with this row in the reportObjectDefinitionTable. This
  value shall not exceed the value indicated by the maxReportBlocks object.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjName (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.7.3.1.3"

DEFVAL     { 1 }
::= { reportObjectDefinitionEntry 3 }
```

13.4.3.4 Report Object Identifier Parameter

```
reportOID OBJECT-TYPE
SYNTAX     OBJECT IDENTIFIER
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the object identifier of the object to
  log. The following objects shall NOT be assigned to any reportOID:
  All objects under the security node (Annex B) { nema transportation devices
```

```
  global security }
  All objects under the dynObjMgmt node (Annex A) {nema transportation
  protocols dynObjMgmt}
  All objects under the chap node (Annex B of NTCIP 2301) { nema
  transportation protocols layers chap }
  Any other report object or watch object
  Any objects so identified by various device standards
  Any objects that the agent/device does not support.

  An agent should return a badValue error if it receives a SET command for
  any of the above.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjFieldObject (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.7.3.1.4"

DEFVAL     { zeroDotZero }
::= { reportObjectDefinitionEntry 4 }
```

13.4.4 Report Block Table

```
reportBlockTable OBJECT-TYPE
SYNTAX     SEQUENCE OF ReportBlockEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> A table containing the Report blocks defined in the
  reportObjectDefinitionTable. The number of rows in this table is equal to
  the value of the maxReportBlocks object.

  <Table Type> static

  <Supplanted by> ISO26048-1-DynObj.fdDynObjTable (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.7.4"

::= { reportBlocks 4 }

reportBlockEntry OBJECT-TYPE
SYNTAX     ReportBlockEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>This defines a row in the reportBlockTable.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjEntry (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.7.4.1"

INDEX      { reportBlockNumber }
::= { reportBlockTable 1 }

ReportBlockEntry ::= SEQUENCE {
        reportBlockNumber      Integer32,
        reportBlockStatus      NtcipRowStatusStatic,
        reportBlockDescription OCTET STRING,
        reportBlockValue       ITSOerString}
```

13.4.4.1 Report block Number

```
reportBlockNumber OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-only
```



```
STATUS     deprecated
DESCRIPTION
  "<Definition>The block number for this row in the table. This value shall
  not exceed the value indicated by the maxReportBlocks object.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjName (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.7.4.1.1"

::= { reportBlockEntry 1 }
```

13.4.4.2 Report Block Status

```
reportBlockStatus OBJECT-TYPE
SYNTAX     NtcipRowStatusStatic
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>The value of this object indicates the current status of this
  row in the table.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjRowStatus (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.7.4.1.2"

DEFVAL     { invalid }
::= { reportBlockEntry 2 }
```

13.4.4.3 Report Block Description

```
reportBlockDescription OBJECT-TYPE
SYNTAX     OCTET STRING (SIZE(0..20))
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object may be used to define a description of this
  report block.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjDescription (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.7.4.1.3"

DEFVAL     { "" }
::= { reportBlockEntry 3 }
```

13.4.4.4 Report Block Value

```
reportBlockValue OBJECT-TYPE
SYNTAX     ITSOerString
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> An OER encoded string of all object values defined in
  reportObjectDefinitionTable, pointed at by reportOID (in reportID order)
  where the reportBlock IS reportBlockNumber AND the reportStatus IS
  available.

  <Supplanted by> ISO26048-1-DynObj.fdDynObjCurrentValue (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.7.4.1.4"

DEFVAL     { ''H }
::= { reportBlockEntry 4 }
```

13.5 TRAP MANAGEMENT

13.5.1 Trap Control

```
trapControl OBJECT-TYPE
SYNTAX     Integer32 (0..1)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The possible values are:
  0 - disable NTCIP traps
  1 - enable NTCIP traps
  The other values are reserved.

  <Supplanted by> ISO26048-1-Notification.fdNotificationsEnabled (ISO 26048-
  1)

  <Informative> The replacement object is defined as a TruthValue (RFC 2579),
  which is an enumeration where 1 = 'true' (in this case, enabled) and and 2
  = 'false' (in this case, disabled).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.1"

DEFVAL     { 0 }
::= { trapMgmt 1 }
```

13.5.2 Trap Data

```
trapData OBJECT-TYPE
SYNTAX     ITSOerString
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> It contains an octet string (event notification) with octet
  trap sequence number (trapMgmtSeqNum)and octet trap manager index
  (trapMgmtManagerIndex), followed by one or more OER encoded sequences of
  ventide (eventConfigID), eventTime (globalTime of the occurrence of the
  event), eventLogTimeMilliseconds (fractional second of the occurrence of
  the event), and reported data (as pointed to by eventConfigLogOID).
  For aggregated trap messages (ackTrapChain and noackTrapChain) the trapData
  contains the octet trap sequence number (trapMgmtSeqNum) and octet trap
  manager index (trapMgmtManagerIndex), followed by from 1 to
  trapMaxAggregationSize triplets. The sequence to which OER encoding is
  applied is formally defined by the TrapDataStructure (see Section 6.4.1).

  <Supplanted by> ISO26048-1-Notification.fdNotificationData (ISO 26048-1)

  <Informative> The original syntax for this object was OerString as defined
  in NTCIP 8004 v02. NTCIP 8004 v03 recommends the use of ITSOerString in
  SMIv2 modules as it is formally defined as a textual convention in ISO
  26048-1. Both OerString and ITSOerString resolve to OCTET STRING, so while
  the written syntax has changed, there is no impact on how it is encoded.
  The replacement object switches the order of the initial index and sequence
  number. It also uses a ITSDailyTimeStamp, which indicates time of day to
  the millisecond. It also includes a latency of the data and each data field
  is presented as a CHOICE of either the data value or the PDU error that the
  get operation generated.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.2"

::= { trapMgmt 2 }
```

13.5.3 Trap Management Maximum Entries

```
trapMgmtMaxEntries OBJECT-TYPE
SYNTAX     Integer32 (1..255)
UNITS      "entries"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The maximum number of entries in the trapMgmtTable.

  <Informative> The trapMgmtTable has been replaced with a dynamic table,
  which does not require an object indicating the maximum number of rows.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.3"

::= { trapMgmt 3 }
```

13.5.4 Trap Maximum Aggregation Events

```
trapMaxAggregationEvents OBJECT-TYPE
SYNTAX     Integer32 (1..255)
UNITS      "events"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object defines the maximum number of trap-events which
  can be aggregated.

  <Informative> The object does not have a parallel in ISO 26048-1.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.4"

::= { trapMgmt 4 }
```

13.5.5 Trap Maximum Aggregation Size

```
trapMaxAggregationSize OBJECT-TYPE
SYNTAX     Integer32 (1..1023)
UNITS      "octets"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object defines the maximum size (in bytes) of the
  aggregation chains that can be created during the aggregation process.

  <Supplanted by> ISO26048-1-Notification.fdNotificationsMaxSize (ISO 26048-
  1)

  <Informative> The replacement object is defined as an Unsigned32.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.5"

::= { trapMgmt 5 }
```

13.5.6 Trap Management Table

```
trapMgmtTable OBJECT-TYPE
SYNTAX     SEQUENCE OF TrapMgmtEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> The table contains the list of management stations and their
  parameters where the agent traps are to be sent.

  <Table Type> static

  <Supplanted by> ISO26048-1-Notification.fdNotifyChannelTable (ISO 26048-1)
```

```
  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6"

::= { trapMgmt 6 }

trapMgmtEntry OBJECT-TYPE
SYNTAX     TrapMgmtEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> This defines a row in the trapMgmtTable.

  <Supplanted by> ISO26048-1-Notification.fdNotifyChannelEntry (ISO 26048-1)

  <Informative> The replacement table has a dual-index of an owner and name,
  both SnmpAdminStrings; it is separately assigned an ID, which more closely
  relates to the trapMgmtManagerIndex. In addition to the changes described
  below, the replacement table adds the following columns:
  - A command to clear the current channel queue
  - A StorageType for the row
  - A RowStatus for the dynamic table

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1"

INDEX      { trapMgmtManagerIndex }
::= { trapMgmtTable 1 }

TrapMgmtEntry ::= SEQUENCE {
        trapMgmtManagerIndex           Integer32,
        trapMgmtManagerPointer         Integer32,
        trapMgmtCommunityNamePointer   Integer32,
        trapMgmtApplicationProtocol    INTEGER,
        trapMgmtTransportProtocol      INTEGER,
        trapMgmtPortNum                Integer32,
        trapMgmtMaxRetries             Integer32,
        trapMgmtRepeatInterval         Integer32,
        trapMgmtDelta                  Integer32,
        trapMgmtQueueDepth             Integer32,
        trapMgmtLinkStateStatus        INTEGER,
        trapMgmtAntiStreamRate         Integer32,
        trapMgmtErrStatus              INTEGER,
        trapMgmtLostTraps              Counter32,
        trapMgmtRowStatus              NtcipRowStatusStatic,
        trapMgmtSeqNum                 Integer32,
        trapMgmtSeqNumAck              Integer32}
```

13.5.6.1 Trap Manager Index

```
trapMgmtManagerIndex OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object provides the index into the trapMgmtTable. This
  value shall not exceed the trapMgmtMaxEntries object value.

  <Supplanted by> ISO26048-1-Notification.fdNotifyChannelID (ISO 26048-1)

  <Informative> The replacement object is defined as an ITSUnsigned16.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1.1"
```



```
::= { trapMgmtEntry 1 }
```

13.5.6.2 Trap Logical Name Translation Entry Pointer

```
trapMgmtManagerPointer OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> For UDP/IP stacks (trapMgmtTransportProtocol = 3), this value
  is equal to the logicalNameTranslationIndex for the logical name
  translation table entry where logicalNameTranslationName holds the logical
  name and logicalNameTranslationNetworkAddress holds the IP address of the
  destination management station for ntcip traps. Otherwise it is not used.
  This value shall not exceed the logicalNameTranslationTableMaxEntries
  object value.

  <Supplanted by> ISO26048-1-Notification.fdNotifyChannelTarget (ISO 26048-1)

  <Informative> The replacement object identifies an SNMP Target by its
  snmpTargetAddrName, as defined in RFC 3413. The snmpTargetAddrTable
  indicates the transport domain and address for the target.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1.2"

DEFVAL     { 1 }
::= { trapMgmtEntry 2 }
```

13.5.6.3 Trap Community Name Entry Pointer

```
trapMgmtCommunityNamePointer OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This value is equal to the communityNameIndex for the
  community name table entry where communityNameUser holds the community name
  for ntcip traps sent to the destination management station. This value
  shall not exceed communityNamesMax object value.

  <Supplanted by> SNMP-TARGET-MIB.snmpTargetParamsSecurityModel,
  snmpTargetParamsSecurityName, & snmpTargetParamsSecurityLevel (RFC 3413)

  <Informative> In the replacement design, fdNotifyChannelTarget points to a
  row in the snmpTargetAddrTable, which points to a row in the
  snmpTargetParamsTable, which contains the security information to be used
  to communicate with the Target.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1.3"

DEFVAL     { 1 }
::= { trapMgmtEntry 3 }
```

13.5.6.4 Trap Application Layer Protocol

```
trapMgmtApplicationProtocol OBJECT-TYPE
SYNTAX     INTEGER { other (1),
                     snmp (2),
                     sfmp (3) }
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object identifies the application layer protocol to use
  for TMP (Transportation Management Protocol) traps. The possible values
```

```
  are:
  1 - other : not defined in this standard
  2 - snmp : use SNMPv1 Trap
  3 - sfmp : use SFMP Trap

  <Supplanted by> SNMP-TARGET-MIB.snmpTargetParamsMPModel (RFC 3413)

  <Informative> In the replacement design, fdNotifyChannelTarget points to a
  row in the snmpTargetAddrTable, which points to a row in the
  snmpTargetParamsTable, which contains snmpTargetParamsMPModel, which
  indicates a message processing model (i.e., SNMPv1 vs. SNMPv3). If the
  NTCIP (or NEMA) community desired, it could define its own processing model
  (e.g., something similar to SFMP with security) and assign it a value of
  (1206 * 256) + id, where id is between 0 and 255 (see RFC 3411).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1.4"

DEFVAL     { snmp }
::= { trapMgmtEntry 4 }
```

13.5.6.5 Trap Transport Layer Protocol

```
trapMgmtTransportProtocol OBJECT-TYPE
SYNTAX     INTEGER { other (1),
                     t2 (2),
                     udp (3) }
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object identifies the transport profile to use for TMP
  traps. The possible values are:
  1 - other : not defined in standard
  2 - t2 : use T2 encapsulation to omit the port number
  3 - udp : use UDP/IP stack

  <Supplanted by> SNMP-TARGET-MIB.snmpTargetAddrTDomain (RFC 3413)

  <Informative> In the replacement design, fdNotifyChannelTarget points to a
  row in the snmpTargetAddrTable, which contains snmpTargetAddrTDomain, which
  identifies the transport domain to be used; registered domains can be found
  at https://www.iana.org/ assignments/snmp-number-spaces/snmp-number-
  spaces.xhtml. For example, the snmpTLSTCPDomain is 1.3.6.1.6.1.8 and
  snmpDTLSUDPDomain is 1.3.6.1.6.1.9.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1.5"

DEFVAL     { udp }
::= { trapMgmtEntry 5 }
```

13.5.6.6 Trap Port Number

```
trapMgmtPortNum OBJECT-TYPE
SYNTAX     Integer32 (0..65535)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> Port of the destination management station (e.g. 162 -
  default SNMP Trap port).

  <Supplanted by> SNMP-TARGET-MIB.snmpTargetAddrTAddress (RFC 3413)

  <Informative> In the replacement design, fdNotifyChannelTarget points to a
  row in the snmpTargetAddrTable, which contains snmpTargetAddrTAddress,
  which is defined in a format defined by the snmpTargetAddrTDomain. For
```



```
  snmpTLSTCPDomain and snmpDTLSUDPDomain, the Taddress includes the port
  number; other protocols support similar values.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1.6"

DEFVAL     { 162 }
::= { trapMgmtEntry 6 }
```

13.5.6.7 Trap Maximum Retransmission Retries

```
trapMgmtMaxRetries OBJECT-TYPE
SYNTAX     Integer32 (0..255)
UNITS      "tries"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The maximum number of times an agent attempts to retransmit a
  trap before transitioning to the error state.

  <Supplanted by> SNMP-TARGET-MIB.snmpTargetAddrRetryCount (RFC 3413)

  <Informative> A value of one indicates that the agent attempts a maximum of
  two transmissions.
  In the replacement design, fdNotifyChannelTarget points to a row in the
  snmpTargetAddrTable, which contains snmpTargetAddrRetryCount, which is an
  equivalent object.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1.7"

DEFVAL     { 0 }
::= { trapMgmtEntry 7 }
```

13.5.6.8 Trap Repeat Interval

```
trapMgmtRepeatInterval OBJECT-TYPE
SYNTAX     Integer32 (0..255)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The minimum number of seconds to wait before retransmitting a
  trap that has not been acknowledged. A value of zero (0) indicates an
  immediate retransmission of the trap.

  <Supplanted by> SNMP-TARGET-MIB.snmpTargetAddrTimeout (RFC 3413)

  <Informative> In the replacement design, fdNotifyChannelTarget points to a
  row in the snmpTargetAddrTable, which contains snmpTargetAddrTimeout, which
  indicates the timeout in hundredths of a second (up to 24 million seconds,
  which is almost a year).

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1.8"

DEFVAL     { 60 }
::= { trapMgmtEntry 8 }
```

13.5.6.9 Trap Repeat Interval Timeout Delta

```
trapMgmtDelta OBJECT-TYPE
SYNTAX     Integer32 (0..255)
UNITS      "seconds"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> A number of seconds to be added to the total timeout for the
  next trap retransmission.
```

```
  <Informative> In the replacement design, there is no equivalent to this
  object because as the definition of the timeout parameter indicates that it
  is implementation dependent.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1.9"

DEFVAL     { 60 }
::= { trapMgmtEntry 9 }
```

13.5.6.10 Trap Maximum Number of Queued Traps

```
trapMgmtQueueDepth OBJECT-TYPE
SYNTAX     Integer32 (0..50)
UNITS      "traps"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The maximum number of traps that can be queued for the
  Management station. Setting this value to zero flushes and disables the
  queue, and prevents any queueable traps from being sent.

  <Supplanted by> ISO26048-1-Notification.fdNotifyChannelQueueDepth (ISO
  26048-1)

  <Informative> The replacement object has a syntax of Unsigned32.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1.10"

DEFVAL     { 1 }
::= { trapMgmtEntry 10 }
```

13.5.6.11 Trap State of Communications Link

```
trapMgmtLinkStateStatus OBJECT-TYPE
SYNTAX     INTEGER { other (1),
                     ready (2),
                     pending (3),
                     error (4) }
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object contains the current link state of the manager
  registered in this row.

  <Format> The states are defined as follows:
  other (1) - not defined in this standard;
  ready (2) - any trap can be sent to the manager (initial condition after
  power-on); if an ACK trap appears in the queue the agent sends the trap
  message to the manager, starts timer and internal retry counter, and sets
  the state to pending;
  pending (3) - waiting for the manager to acknowledge the last ACK trap;
  NOACK and forced mode traps can be transmitted to the manager; if after all
  retries and timeouts the management station did not acknowledge an ACK trap
  message the agent sets the state to error
  error (4) - an ACK trap has not been acknowledged within the specified
  number of retries for this management station. Only force mode traps are
  transmitted to the management station until the link state is reset to
  ready.

  <Informative> The replacement design does not have a need for this object
  because it relies upon the native Confirmed-Class and Unconfirmed-Class
  PDUs. If the notification is sent via a Confirmed-Class, it is the
```



```
  responsibility of the SNMP engine to discover missing confirmations and
  retry.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1.11"

REFERENCE  "NTCIP 1103 v03 Section 6.3"
::= { trapMgmtEntry 11 }
```

13.5.6.12 Trap Antistreaming Rate

```
trapMgmtAntiStreamRate OBJECT-TYPE
SYNTAX     Integer32 (1..255)
UNITS      "traps/minute"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> The maximum number of traps that can be generated on a
  specific link (trap channel) in one minute. The agent shall reset the anti-
  streaming counter at the start of each minute. If the anti- streaming rate
  is reached the agent shall set the 'Trap channel anti- streaming mode
  activated' bit in the trapMgmtErrStatus, send the current trap and cease
  sending any additional traps on this link (trap channel) until the start of
  the next minute.

  <Supplanted by> ISO26048-1-Notification.fdNotifyChannelAntiStreamRate (ISO
  26048-1)

  <Informative> The replacement object has a syntax of Unsigned32.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1.12"

DEFVAL     { 10 }
::= { trapMgmtEntry 12 }
```

13.5.6.13 Trap Error Status

```
trapMgmtErrStatus OBJECT-TYPE
SYNTAX     Integer32 (0..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> Trap channel status mask. When a bit = 1 the error status is
  true. When a bit = 0 the error status is false.
  Bit 7: Reserved Bit
  Bit 6: Reserved Bit
  Bit 5: Reserved Bit
  Bit 4: Reserved Bit
  Bit 3: Reserved Bit
  Bit 2: Trap channel has trapMgmtLinkStateStatus = error
  Bit 1: Trap channel anti-streaming mode activated
  Bit 0: Trap channel queue full

  <Informative> The replacement design does not have an equivalent object.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1.13"

::= { trapMgmtEntry 13 }
```

13.5.6.14 Trap Lost Trap Counter

```
trapMgmtLostTraps OBJECT-TYPE
SYNTAX     Counter32
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
```

```
  "<Definition> Counter for the number of traps that have been discarded due
  to the queue for this trap channel being full.

  <Supplanted by> ISO26048-1-Notification.fdNotifyChannelDroppedCount (ISO
  26048-1)

  <Informative> The replacement object expands the definition for dropping a
  notification packet for any reason before transmission. Note: Counters are
  not required to be zero-based.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1.14"

::= { trapMgmtEntry 14 }
```

13.5.6.15 Trap Row Status

```
trapMgmtRowStatus OBJECT-TYPE
SYNTAX     NtcipRowStatusStatic
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object allows for the management of rows within the
  table.

  <Supplanted by> ISO26048-1-Notification.fdNotifyChannelRowStatus (ISO
  26048-1)

  <Informative> The replacement object has a syntax of RowStatus, which
  provides a dynamic table.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1.15"

DEFVAL     { invalid }
::= { trapMgmtEntry 15 }
```

13.5.6.16 Trap Sequence Number

```
trapMgmtSeqNum OBJECT-TYPE
SYNTAX     Integer32 (1..255)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object contains the sequence number of the last new trap
  that has been sent on this link. It is included in the trap message to
  assist a management station in identifying duplicate trap messages or
  detect when trap messages are missed. The agent shall increment this
  counter on each new trap message, but not retries, sent to the management
  station. The first trap message sent after a power-on reset or after
  trapMgmtRowStatus is successfully activated has trapMgmtSeqNum = 1. The
  sequence number is reset to 1 after a trap is sent with trapMgmtSeqNum ==
  255.

  <Supplanted by> ISO26048-1-Notification.fdNotifyChannelSeqNum (ISO 26048-1)

  <Informative> The replacement object has a syntax of Counter32.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1.16"

REFERENCE  "NTCIP 1103 v03 Section 6.2.6"
::= { trapMgmtEntry 16 }
```

13.5.6.17 Trap Acknowledge Sequence Number

```
trapMgmtSeqNumAck OBJECT-TYPE
SYNTAX     Integer32 (0..255)
MAX-ACCESS read-write
```



```
STATUS     deprecated
DESCRIPTION
  "<Definition> This object is set to the sequence number of the trap that is
  being acknowledged by the management station. If the value set equals
  either the current value of trapMgmtSeqNumAck or zero (0), then the agent
  changes the trapMgmtLinkStateStatus from pending or error to ready and set
  this object to zero (0) indicating no ack traps are awaiting
  acknowledgement. If this object is set to any other value, then the agent
  ignores the set and continue the normal acknowledge process including
  retries.

  <Informative> Within the replacement design, it is the responsibility of
  the SNMP engine to ensure that Confirmed-Class notifications are
  acknowledged.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.6.1.17"

REFERENCE  "NTCIP 1103 v03 Section 6.2.7"
::= { trapMgmtEntry 17 }
```

13.5.7 Trap Table

```
trapTable OBJECT-TYPE
SYNTAX     SEQUENCE OF TrapEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> The table specifies the trap operational mode for each event
  registered in the eventLogConfigTable (NTCIP 1201) and necessary to run
  NTCIP Trap operations.
  Each entry in the trapTable can be individually enabled and disabled and is
  assigned its own mode per trap channel. An event can be sent to multiple
  trap channels by creating multiple entries in the trapTable for the same
  event, each with a different trapMgmtManagerIndex.

  <Table Type> static

  <Supplanted by> ISO26048-1-Notification.fdNotifyFactoryTable (ISO 26048-1)

  <Informative> The replacement table is dynamic.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.7"

::= { trapMgmt 7 }

trapEntry OBJECT-TYPE
SYNTAX     TrapEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition> This defines a row in the trapTable.

  <Supplanted by> ISO26048-1-Notification.fdNotifyFactoryEntry (ISO 26048-1)

  <Informative> The replacement table uses a dual index with owner and name.
  It is not directly connected to the trigger table; it is called by it as
  one potential action. The replacement table adds the following columns:
  - An event id that provides a concise identifier for the event, similar to
  eventConfigID.
  - The notification channel to use; i.e., in the new design, a specific
  event can result in multiple notifications (presumably to different
  managers)
  - The object to be sent (i.e., the new design allows for different
```

```
  information to be logged and to be sent)
  - A StorageType column
  - A RowStatus column

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.7.1"

INDEX      { eventConfigID, trapMgmtManagerIndex }
::= { trapTable 1 }

TrapEntry ::= SEQUENCE {
        trapDestEnable       Integer32,
        trapMode             Integer32,
        trapAggregationTime  Integer32,
        trapCounter          Counter32}
```

13.5.7.1 Trap Destination Enabled

```
trapDestEnable OBJECT-TYPE
SYNTAX     Integer32 (0..1)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> Setting this object to one (1) enables the trap
  (eventConfigID) for transmission through the trap channel
  (trapMgmtManagerIndex).
  A value of zero (0) disables events with eventConfigID from being acted on
  with respect to the transmission of traps through the specific trap channel
  identified in the trapMgmtTable.

  <Supplanted by> ISO26048-1-Notification.fdNotifyFactoryRowStatus (ISO
  26048-1)

  <Informative> The transmission (or queuing) of the trap also depends on
  entries in the eventLogConfigTable and the trapMgmtTable. Entries in all
  three tables are required to be enabled for the trap to be queued or
  transmitted.
  The replacement object allows creation and deletion of the entry as well.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.7.1.1"

DEFVAL     { 0 }
::= { trapEntry 1 }
```

13.5.7.2 Trap Mode

```
trapMode OBJECT-TYPE
SYNTAX     INTEGER { forced (1),
                     ack-noQ (2),
                     ack (3),
                     noack-noQ (4),
                     noack (5),
                     ack-Aggr (6),
                     noack-Aggr (7) }
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object defines a number of different methods for
  handling the trap data prior to or as it is transferred to the trap
  channel.

  <Format> The trap modes are as follows:
  1 - forced: NOACK, the trap is sent (not queued) regardless of the
```



```
  trapMgmtLinkStateStatus.
  2 - ack_noQ: ACK, the trap is sent if the trapMgmtLinkStateStatus is READY;
  otherwise the trap is simply dropped (lost); however, if the trap is
  transmitted, it is acknowledged and the retry mechanism is invoked.
  3 - ack: ACK, the trap is sent if the trapMgmtLinkStateStatus is READY,
  otherwise the trap message shall be queued.
  4 - noack_noQ: NOACK, the trap is sent if the trapMgmtLinkStateStatus is
  READY or PENDING; otherwise the trap is simply dropped (lost).
  5 - noack: NOACK, the trap is sent if the trapMgmtLinkStateStatus is READY
  or PENDING; it is queued if the channel status is ERROR.
  6 - ack_Aggr: ACK, the trap data (eventConfigID, timestamp, and reported
  data) are added to the ackTrapChain for transmission to the management
  station when a chain termination condition occurs and the
  trapMgmtLinkStateStatus is READY. ackTrapChains are not queued and are
  transmitted prior to any queued traps.
  7 - noack_Aggr: NOACK, the trap data (eventConfigID, timestamp, and
  reported data) are added to the noackTrapChain for transmission to the
  management station when a chain termination condition occurs and the
  trapMgmtLinkStateStatus is READY or PENDING; otherwise the noackTrapChain
  grows accepting new traps.
  8+: reserved (not used in a proprietary manner)

  <Supplanted by> ISO26048-1-Notification.fdNotifyFactoryAckEnabled &
  fdNotifyFactoryQueueEnabled (ISO 26048-1)

  <Informative> The replacement object values map to the values of this
  object as follows:
  forced - there is no true parallel because the queue in trapMgmt is an
  artifact of the management of acknowledged traps with no defined role
  related to the anti-streaming rate. Within fdNotifyChannel, the queue
  solely relates to the antistreaming rate because the replacement design
  relies on the SNMP engine to manage responses and the link state is
  effectively always READY. There is no way to force an override of anti-
  streaming.
  Ack_noQ - AckEnabled = true and QueueEnabled = false: if the anti-
  streaming rate has not been exceeded, the notification is sent as an SNMP
  Inform message; otherwise, the notification is dropped.
  Ack - AckEnabled = true and QueueEnabled = true: if the anti- streaming
  rate has not been exceeded, the notification is sent as an SNMP Inform
  message; otherwise, it is added to the queue. If the addition of the packet
  to the queue would cause the queue depth to be exceeded, the oldest
  notification is deleted to make room for the most recent notification.
  Noack_noQ - AckEnabled = false and QueueEnabled = false: if the anti-
  streaming rate has not been exceeded, the notification is sent as an SNMP
  Trap message; otherwise, the notification is dropped.
  Noack - AckEnabled = false and QueueEnabled = true: if the anti- streaming
  rate has not been exceeded, the notification is sent as an SNMP Trap
  message; otherwise, the notification is added to the queue. If the addition
  of the packet to the queue would cause the queue depth to be exceeded, the
  oldest notification is deleted to make room for the most recent
  notification.
  Ack_Aggr - AckEnabled=true, QueueEnabled=false, AggregationTime>0: Same as
  ack_NoQ; there is no queue-jumping logic defined.
  Noack_Aggr - AckEnabled=false, QueueEnabled=false, AggregationTime>0: Same
  as noack_NoQ; there is no queue-jumping logic defined.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.7.1.2"

REFERENCE  "NTCIP 1103 v03, Sections 6.2.3 and 6.2.4"
```

```
DEFVAL     { forced }
::= { trapEntry 2 }
```

13.5.7.3 Trap Maximum Aggregation Time

```
trapAggregationTime OBJECT-TYPE
SYNTAX     Integer32 (0..65535)
UNITS      "seconds"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> maximum time (in seconds) that this trap can wait for
  transmission while being aggregated within a trap chain (for noack_Aggr and
  ack_Aggr traps only). The value of zero (0) indicates immediate trap chain
  transmission. The first trap with a mode specifying 'timed' aggregation
  starts this timer. The timer is reset when the trap chain is sent. The
  aggregation timers for each entry in the trap chain time concurrently and
  the first one to expire causes the entire trap chain to be sent to the
  management station.

  <Informative> This is larger than 8 bits to allow aggregation times to
  support 5 minutes and longer.

  <Supplanted by> ISO26048-1-Notification.fdNotifyFactoryAggregationTime (ISO
  26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.7.1.3"

REFERENCE  "NTCIP 1103 v03 Section 6.2.4"
DEFVAL     { 0 }
::= { trapEntry 3 }
```

13.5.7.4 Trap Counter

```
trapCounter OBJECT-TYPE
SYNTAX     Counter32
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> this keeps track of the number of eventConfigID traps sent to
  the trap channel identified by the trapMgmtManagerIndex since the last
  (power-on) reset. It is incremented with the transmission or queuing (or
  addition to a trap chain) of each trap. By reading this parameter, a
  management station can verify the number of traps triggered for
  transmission or queuing by this event for this trap channel.

  <Supplanted by> ISO26048-1-Notification.fdNotifyFactoryEventCount

  <Informative> Counters are not zero-based.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.1.7.1.4"

::= { trapEntry 4 }
```

13.6 NTCIP TRAP DATA

13.6.1 Event Trap

```
trapEvent NOTIFICATION-TYPE
OBJECTS    { trapData }
STATUS     deprecated
DESCRIPTION
  "<Definition> Indicates that one of the user-defined event specified in the
  eventLogConfigTable has occurred. The generation of the trap is governed by
```



```
  the rules defined in SNMP, Section 6 above, and the trapMgmtTable.
  The instances of the variables associates with this trap shall indicate
  those associated with the event notification being sent.

  <Supplanted by> ISO26048-1-Notification.fdNotificationPacket

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.4.2.0.1"

::= { ntcipTrapNotifications 1 }
```

13.7 CLEAR EVENT DATA

13.7.1 Clear Event Class

```
eventClearClasses OBJECT-TYPE
SYNTAX     Integer32 (0..255)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object identifies the event class to be cleared from the
  report node. A SET of n = 5..255, n <= maxEventClasses shall cause all
  information related to that class to be cleared from the report node. This
  includes clearing the event class table of eventClassNumber = n data,
  clearing all event configurations related to eventClassNumber = n, and
  clearing all event log entries for class n. A SET of 0 shall clear all
  classes as described. That is, completely clear the report node with the
  exception that the preconfigured event classes, their configurations, and
  their preconfigured event log entries are not cleared. A GET shall always
  return zero (0).
  If a device standard, Classes 1..4 are preconfigured and cannot be cleared.
  An attempt to clear Classes 1..4 shall return badValue. A value of n >
  maxEventClasses or > 255 if maxEventClasses is not configured, shall also
  return badValue.

  <Supplanted by> ISO26048-1-Log.fdLogsDeleteAllConfiguration &
  fdLogManagerRowStatus (ISO 26048-1)

  <Informative> An administrator can delete the configuration and data for
  all logs or an owner can choose to delete any specific configuration and
  associated data.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.8.1"

::= { eventClearObjects 1 }
```

13.7.2 Clear Event Configuration

```
eventClearConfiguration OBJECT-TYPE
SYNTAX     Integer32 (0..65535)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the event configuration(s) to clear from
  the report node. A SET of n = 1..65535, n <= maxEventLogConfigs shall cause
  all information related to that configuration to be cleared from the report
  node. This includes clearing the event configuration table for all
  eventConfigID = n data, and clearing all event log entries for
  eventConfigID = n. A SET of 0 shall clear all configurations within the
  device as described (i.e. completely clear the report node with the
  exception that the eventClassTable is and preconfigured event configuration
  are not altered). A GET shall always return zero (0).
```

```
  <Supplanted by> LOG-MIB. fdLogEventFactoryRowStatus (ISO 26048-1) &
  ISO26048-1-CondTrigger.fdCondTriggerRowStatus (ISO 26048-1)

  <Informative> This object cannot be included in a block object. The device
  shall respond with badValue if the eventLogConfig = n does not exist. The
  device shall respond with badValue if an attempt to clear a preconfigured
  event log entries is made.
  A user can separately delete the trigger and the factory.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.8.2"

::= { eventClearObjects 2 }
```

13.7.3 Clear Event Log Table

```
eventClearLog OBJECT-TYPE
SYNTAX     Integer32 (0..1)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object commands the device to clear the eventLogTable. A
  SET of zero has no effect on the eventLogTable. A SET = 1 shall cause all
  event log entries to be deleted from the eventLogTable. Upon performing the
  action requested, the device shall SET this object to zero (0). A GET shall
  always return zero (0).

  <Supplanted by> ISO26048-1-Log.fdLogsClearAllLogs

  <Informative> The replacement object uses a syntax of TruthValue.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.8.3"

::= { eventClearObjects 3 }
```

13.7.4 Clear Report Objects

```
clearReportObjects OBJECT-TYPE
SYNTAX     Integer32 (0..1)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object commands the device to effectively clear the
  report object and report block tables. A SET of zero has no effect on the
  tables. A SET = 1 shall set the row status object of all rows within both
  reportObjectDefinitionTable and reportBlockTable to invalid, effectively
  clearing the tables in one action. Upon performing the action requested,
  the device shall SET this object to zero (0). A GET shall always return
  zero (0).

  <Informative> There is no parallel to this object in the replacement
  design.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.8.4"

::= { eventClearObjects 4 }
```

13.7.5 Clear Report Block Table

```
clearReportBlockTable OBJECT-TYPE
SYNTAX     Integer32 (0..1)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object commands the device to effectively clear the
  report block table. A SET of zero (0) has no effect on the tables. A SET of
```



```
  one (1) shall set the row status object of all rows within reportBlockTable
  to invalid, effectively clearing the table in one action. Upon performing
  the action requested, the device shall SET this object to zero (0). A GET
  shall always return zero (0).

  <Informative> There is no parallel to this object in the replacement
  design.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.8.5"

::= { eventClearObjects 5 }
```

13.7.6 Clear Watch Objects

```
clearWatchObjects OBJECT-TYPE
SYNTAX     Integer32 (0..1)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object commands the device to effectively clear the watch
  object and watch block tables. A SET of zero has no effect on the tables. A
  SET = 1 shall set the row status object of all rows within both
  watchObjectDefinitionTable and watchBlockTable to 'invalid' effectively
  clearing the tables in one action. Upon performing the action requested,
  the device shall SET this object to zero (0). A GET shall always return
  zero (0).

  <Informative> There is no parallel to this object in the replacement
  design.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.8.6"

::= { eventClearObjects 6 }
```

13.7.7 Clear Watch Block Table

```
clearWatchBlockTable OBJECT-TYPE
SYNTAX     Integer32 (0..1)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object commands the device to effectively clear the watch
  block table. A SET of zero (0) has no effect on the tables. A SET of one
  (1) shall set the row status object of all rows within watchBlockTable to
  'invalid' effectively clearing the table in one action. Upon performing the
  action requested, the device shall SET this object to zero (0). A GET shall
  always return zero (0).

  <Informative> There is no parallel to this object in the replacement
  design.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.8.7"

::= { eventClearObjects 7 }
```

13.7.8 Clear Trap Management Table

```
clearTrapMgmtTable OBJECT-TYPE
SYNTAX     Integer32 (0..1)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object commands the device to effectively clear the trap
  management table and, as a consequence, the trap table. A SET of zero (0)
  has no effect on the tables. A SET of one (1) shall set the row status
```

```
  object of all rows within trapMgmtTable to 'invalid' effectively clearing
  the table in one action. Upon performing the action requested, the device
  shall SET this object to zero (0). A GET shall always return zero (0).
  Note: Because the trapMgmtIndex is also an index of trapTable, this action
  also effectively removes all rows of the trapTable.

  <Informative> There is no parallel to this object in the replacement
  design.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.8.8"

::= { eventClearObjects 8 }
END
```


Section 14 DEPRECATED RECORDING MECHANISM MIB

The text provided from Section 14.1 through the end of Section 14 (except the headings) constitutes the standard NTCIP1201-RecMech MIB.

**** All objects contained in this MIB are deprecated. ****

14.1 HEADER

```
NTCIP1201-RecMech DEFINITIONS ::= BEGIN
IMPORTS
MODULE-IDENTITY, OBJECT-IDENTITY, OBJECT-TYPE, Integer32, Unsigned32,
Opaque, zeroDotZero
                                                FROM SNMPv2-SMI
                                                  -- RFC 2578
application
                                                FROM NTCIP8004-Transportation;

recMech MODULE-IDENTITY
LAST-UPDATED "20230701145436Z"
ORGANIZATION "NTCIP BSP2 WG"
CONTACT-INFO
  "name: NTCIP Coordinator
   email:  ntcip@nema.org
   postal: National Electrical Manufacturers Association
           1300 North 17th Street, Suite 1752
           Rosslyn, Virginia 22209-3801"
DESCRIPTION
  "<Definition> This MIB defines the SMIv2 representation of the
  NTCIP1103v0352-recMech MIB, which was defined in NTCIP 1103. This MIB
  defines objects related to the recording mechanism functions that are found
  in devices.
  This MIB was deprecated in NTCIP 1201 v04 due to security issues in the
  structure of the MIB. The objects have been replaced by objects in the
  NTCIP1201v04-recMech MIB.
  *** All objects in this MIB have been deprecated. ***

  <Informative> The recording mechanism class table is presented first to
  ease -- the readability of the standard.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9"

REVISION "20230701145436Z"
DESCRIPTION
  "NTCIP 1201 v04 - Upgraded format to SMIv2 and deprecated all objects."

REVISION "201612310000Z"
DESCRIPTION
  "NTCIP 1103 v03 - Original version of this MIB."

::= { application 9 }
```

14.2 OBJECTS

14.2.1 Maximum Recording Mechanism Classes Parameter

```
maxRecClasses OBJECT-TYPE
SYNTAX     Integer32 (1..254)
UNITS      "RecClasses"
```

```
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The object defines the number of rows in the recClassTable
  that this device supports. This is a static table.

  <Informative> The recClassTable has been replaced with a dynamic table,
  which does not require an object indicating the maximum number of rows.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.1"

::= { recMech 1 }
```

14.2.2 Recording Mechanism Class Table

```
recClassTable OBJECT-TYPE
SYNTAX     SEQUENCE OF RecClassEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>This table is used to configure recording mechanism limits and
  recording table maintenance.

  <Table Type> static

  <Supplanted by> ISO26048-1-Recording.fdRecordingClassTable

  <Informative> The replacement table is dynamic.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.2"

::= { recMech 2 }

recClassEntry OBJECT-TYPE
SYNTAX     RecClassEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>This object defines a row in the Recording Mechanism Class
  Table

  <Supplanted by> ISO26048-1-Recording.fdRecordingClassEntry

  <Informative> The replacement table has a dual index consisting of an owner
  and a name, both SnmpAdminStrings. The table also adds columns for
  StorageType and RowStatus.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.2.1"

INDEX      { recClassNumber }
::= { recClassTable 1 }

RecClassEntry ::= SEQUENCE {
        recClassNumber           Integer32,
        recClassLimit            Integer32,
        recClassClearTime        Unsigned32,
        recClassDescription      OCTET STRING,
        recClassNumRecordings    Integer32,
        recClassRecordingCounter Integer32}
```

14.2.2.1 Recording Mechanism Class Number Parameter

```
recClassNumber OBJECT-TYPE
SYNTAX     Integer32 (1..254)
```



```
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>This is a class value that is to be configured.

  <Supplanted by> ISO26048-1-Recording.fdRecordingClassName

  <Informative> The replacement object is an SnmpAdminString.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.2.1.1"

::= { recClassEntry 1 }
```

14.2.2.2 Recording Mechanism Class Limit Parameter

```
recClassLimit OBJECT-TYPE
SYNTAX     Integer32 (0..254)
UNITS      "recordings"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object specifies the maximum number of recordings of the
  associated class to store in the device. Once the limit is reached, the
  oldest recording of the matching class (based on recordingTriggerTime) is
  overwritten by any new recording of the same class. If the value of this
  object is set to a number smaller than the current number of rows within
  this class in the recRecordingTable, then the oldest entries shall be
  lost/deleted. The sum of all recording mechanism class limits shall not
  exceed the maxRecRecordings object; if a SET operation to this object
  causes the sum of recClassLimit objects to exceed maxRecRecordings, then
  the agent shall respond with a genErr.
  The recording cannot be logged if the recClass has an recClassLimit of zero
  (0).

  <Supplanted by> ISO26048-1-Recording.fdRecordingClassSizeLimit

  <Informative> The replacement object defines a maximum size in octets
  rather than the number of recordings.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.2.1.2"

::= { recClassEntry 2 }
```

14.2.2.3 Recording Mechanism Class Clear Time Parameter

```
recClassClearTime OBJECT-TYPE
SYNTAX     Unsigned32
UNITS      "seconds"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object is used to clear multiple recordings from the
  recRecordingTable. All completed recordings of this class that have a
  recRecordingTriggerTime equal to or less than this object shall be cleared
  from the recRecordingTable. If this object has a value greater than the
  current value of globalTime, it shall prevent the triggering of any
  recordings of this class.

  <Supplanted by> ISO26048-1-Recording.fdRecordingClassClearDate &
  recMechV2ClassClearTime

  <Informative> The SMIv1 syntax for this object was Counter; however, by
  convention, an SNMPv1 Counter is not writable and SNMPv3 prohibits set
  operations. The syntax SMIv2 syntax for this object has been updated to
```

```
  Unsigned32 to avoid this conflict. The superseding objects provide a
  date/time pair.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.2.1.3"

DEFVAL     { 0 }
::= { recClassEntry 3 }
```

14.2.2.4 Recording Mechanism Class Description Parameter

```
recClassDescription OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object specifies a description of the class in ASCII
  characters.

  <Supplanted by> ISO26048-1-Recording.fdRecordingClassDescription

  <Informative> The replacement object uses a syntax of SnmpAdminString to
  clearly indicate that this should be readable text in any language.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.2.1.4"

::= { recClassEntry 4 }
```

14.2.2.5 Recording Mechanism Class Number of Rows in Recording Table Parameter

```
recClassNumRecordings OBJECT-TYPE
SYNTAX     Integer32 (0..255)
UNITS      "recordings"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The number of recordings for this class that currently exist
  in the recRecordingTable.

  <Supplanted by> ISO26048-1-Recording.fdRecordingClassNumRecordings

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.2.1.5"

::= { recClassEntry 5 }
```

14.2.2.6 Class Recording Counter Parameter

```
recClassRecordingCounter OBJECT-TYPE
SYNTAX     Integer32 (0..65535)
UNITS      "recordings"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object is a counter that gets incremented every time a
  recording occurs for this class; it shall initialize to zero at power up.
  The value shall roll over each time it exceeds the maximum of 65535.

  <Supplanted by> ISO26048-1-Recording.fdRecordingClassRecordingCtr

  <Informative> The replacement object has a syntax of ZeroBasedCounter32.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.2.1.6"

::= { recClassEntry 6 }
```

14.2.3 Maximum Recording Configurations

```
maxRecConfigs OBJECT-TYPE
SYNTAX     Integer32 (1..65534)
```



```
UNITS      "RecordType"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The number of rows that exist in the static
  recMechV2RecordingConfig table for this device.

  <Informative> The recMechV2RecordingConfigTable has been replaced with a
  dynamic table, which does not require an object indicating the maximum
  number of rows.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.3"

::= { recMech 3 }
```

14.2.4 Minimum Recording Sample Period

```
recMinSamplePeriod OBJECT-TYPE
SYNTAX     Integer32 (1..65535)
UNITS      "0.1 milliseconds"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The minimum sample period for recordings supported by the
  device in units of 0.1 milliseconds.

  <Supplanted by> NTCIP1201-RecMechV2.recMechMinSamplePeriod

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.4"

::= { recMech 4 }
```

14.2.5 Maximum Recording Sample Period

```
recMaxSamplePeriod OBJECT-TYPE
SYNTAX     Integer32 (1..65535)
UNITS      "0.1 milliseconds"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The maximum sample period for recordings supported by the
  device in units of 0.1 milliseconds.

  <Supplanted by> NTCIP1201-RecMechV2.recMechMaxSamplePeriod

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.5"

::= { recMech 5 }
```

14.2.6 Recording Sample Period Resolution

```
recSamplePeriodResolution OBJECT-TYPE
SYNTAX     Integer32 (1..65535)
UNITS      "0.1 milliseconds"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The sample period resolution for recordings supported by the
  device in units of 0.1 milliseconds. Allowable sample periods are
  restricted to (recMinSamplePeriod + recSamplePeriodResolution * n) where n
  is integer, 0 <= n, and n <= (recMaxSamplePeriod-
  recMinSamplePeriod)/recSamplePeriodResolution

  <Supplanted by> ISO26048-1-Recording.fdRecordingSamplePeriodResolution

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.6"
```

```
::= { recMech 6 }
```

14.2.7 Recording Configuration Table

```
recConfigTable OBJECT-TYPE
SYNTAX     SEQUENCE OF RecConfigEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>A table containing Recording Mechanism Configuration
  information. The number of rows in this table is equal to the maxRecConfigs
  object. This table defines the parameters that the device monitors to
  create a recording.

  <Table Type> static

  <Supplanted by> ISO26048-1-Recording.fdRecordingFactoryTable & ISO26048-1-
  CondTrigger.fdCondTriggerTable (ISO 26048-1)

  <Informative> The replacement design divides the recConfigTable into two
  tables: one that defines triggers that can be used to start recordings or
  other actions and a second table that defines what to record when the
  recording action is triggered.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.7"

::= { recMech 7 }

recConfigEntry OBJECT-TYPE
SYNTAX     RecConfigEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>This object defines an entry in the recording configuration
  table.

  <Supplanted by> ISO26048-1-Recording.fdRecordingFactoryEntry & ISO26048-1-
  CondTrigger.fdCondTriggerEntry (ISO 26048-1)

  <Informative> The replacement trigger table has two indicies: an owner and
  a name. The replacement recording factory table has three indicies, an
  owner, the class name, and the factory name.
  In addition to the other changes described, the trigger table adds the
  following columns:
  - a textual description of the trigger
  - an indication whether the comparison is based on the current object value
  or a delta from its previous reading
  - an octet-based comparison value since SNMPv3 discourages the use of
  Opaque
  - a wildcard that allows defining the same condition on multiple comparison
  OIDs (e.g., all rows of a table)
  - indications of the target and context of the comparison object; in other
  words, the comparison can be performed by a proxy agent or can reference
  another device to get the object value to compare against
  - the frequency at which the comparison is made
  - a truthDuration that allows the configuration to require the evaluation
  to be true for some length of time prior to firing the trigger.
  - startup states that define whether the triggers startup in a fired or
  unfired state (for hysteresis, there are two startups)
  - a pointer to the action table that identifies the action(s) to be
  performed.
```



```
  - an error message object that allows a device to report configuration
  errors.
  - counters for the number of times the trigger has fired, had evaluation
  errors, and activation errors.
  - an indication of the type of storage to use
  - a RowStatus object. The recMech factory table adds the following columns:
  - the security data used to activate the row and that will be used to
  retrieve values for the recording
  - object contexts, which allows a proxy/hrbrid agent to capture information
  from another context
  - A StorageType object

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.7.1"

INDEX      { recConfigID }
::= { recConfigTable 1 }

RecConfigEntry ::= SEQUENCE {
        recConfigID            Integer32,
        recConfigClass         Integer32,
        recConfigMode          INTEGER,
        recConfigCompareValue  Integer32,
        recConfigCompareValue2 Integer32,
        recConfigCompareOID    OBJECT IDENTIFIER,
        recConfigRecordOID     OBJECT IDENTIFIER,
        recConfigTriggerPoint  Integer32,
        recConfigSamplePeriod  Integer32,
        recConfigSampleOID     OBJECT IDENTIFIER,
        recConfigNumEntries    Integer32,
        recConfigAction        INTEGER,
        recConfigStatus        INTEGER}
```

14.2.7.1 Recording Configuration ID Parameter

```
recConfigID OBJECT-TYPE
SYNTAX     Integer32 (1..65534)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the row number which is used to identify
  the recording associated with this row in the recConfigTable. The number of
  recording configuration IDs shall not exceed the value indicated in the
  maxRecConfigs object.

  <Supplanted by> ISO26048-1-Recording.fdRecordingFactoryName

  <Informative> The replacement object is an SnmpAdminString

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.7.1.1"

::= { recConfigEntry 1 }
```

14.2.7.2 Recording Configuration Class Parameter

```
recConfigClass OBJECT-TYPE
SYNTAX     Integer32 (1..254)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object contains the class value to assign to the
  recording associated with this row in the recording configuration table.
```

```
  This value is used in the recording table to organize various recordings
  defined in this table into logical groupings. This value shall not exceed
  the maxRecClasses object value.

  <Supplanted by> ISO26048-1-Recording.fdRecordingClassName

  <Informative> A recording cannot be recorded if the RecClass has an
  recClassLimit of zero (0).
  The replacement object is an index for the table

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.7.1.2"

DEFVAL     { 1 }
::= { recConfigEntry 2 }
```

14.2.7.3 Recording Configuration Mode Parameter

```
recConfigMode OBJECT-TYPE
SYNTAX     INTEGER { other (1),
                     onChange (2),
                     greaterThanValue (3),
                     smallerThanValue (4),
                     hysteresisBound (5),
                     periodic (6),
                     andedWithValue (7) }
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object specifies the mode of operation for this
  recording. The modes are defined as follows:

          Value             Description
          other             the recording mode of operation is not
                            described in this standard, refer to the
                            device manual.
          onChange          trigger a recording when the object value
                            referenced by recConfigCompareOID
                            changes. The values of
                            recConfigCompareValue and
                            recConfigCompareValue2 are ignored in
                            this mode.
          greaterThanValue  trigger a recording when the object value
                            referenced by recConfigCompareOID
                            becomes greater than the value of
                            recConfigCompareValue for the time
                            (tenth seconds) defined by
                            recConfigCompareValue2 (zero means
                            immediate logging).
          smallerThanValue  trigger a recording when the object value
```


	referenced by recConfigCompareOID becomes less than the value of recConfigCompareValue for the time (tenth seconds) defined by recConfigCompareValue2 (zero means immediate logging).
hysteresisBound	trigger a recording when the object value referenced by recConfigCompareOID becomes less than or greater than the bound values. The lowerbound value is the lower value of recConfigCompareValue and recConfigCompareValue2; the upperbound value is the higher value of the two values. When the object value becomes greater than the upper bound value, subsequent triggering of upperbound conditions shall not occur until the object value becomes less than the lower bound value. When the object value becomes less than the lower bound value, subsequent triggering of lowerbound conditions shall not occur until the object value becomes greater than the upper bound value.
periodic	trigger a recording every x seconds, where x is defined by the value stored in recConfigCompareValue. The values stored in recConfigCompareValue2 and recConfigCompareOID are ignored in this mode.
andedWithValue	trigger a recording when the object value referenced by recConfigCompareOID ANDED with the value of recConfigCompareValue is NOT equal to zero for the time (tenth seconds) defined by recConfigCompareValue2 (zero means immediate logging). This allows

```
                              monitoring of a specific bit; the condition
                              becomes true anytime that any one of the
                              selected bits become true.

  <Supplanted by> ISO26048-1-CondTrigger.fdCondTriggerMode (ISO 26048-1)

  <Informative> The replacement object adds the following modes: equal,
  notEqual, creation, deletion. It also distinguishes between an integer-
  based and octet-string-based bitwise comparison, which is required due to
  the elimination of Opaque.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.7.1.3"

DEFVAL     { onChange }
::= { recConfigEntry 3 }
```

14.2.7.4 Recording Configuration Compare Value Parameter

```
recConfigCompareValue OBJECT-TYPE
SYNTAX     Integer32
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the comparison value to use with
  recConfigMode values (greaterThanValue, smallerThanValue, hysteresisBound
  ). No value within this object is necessary when the recConfigMode-object
  has the value onChange (2).

  <Supplanted by> ISO26048-1-CondTrigger.fdCondTriggerValue (ISO 26048-1)

  <Informative> The value is a signed, 4-octet integer

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.7.1.4"

DEFVAL     { 0 }
::= { recConfigEntry 4 }
```

14.2.7.5 Recording Configuration Compare Value 2 Parameter

```
recConfigCompareValue2 OBJECT-TYPE
SYNTAX     Integer32
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>If the recConfigMode is set to hysteresisBound, this object
  specifies the second comparison value for the hysteresis. If the
  recConfigMode is set to greaterThanValue, smallerThanValue, or
  andedWithValue, this object specifies the time (in tenth of seconds, +1
  tenth / -0 tenths) for which the samples used for comparison are true prior
  to the triggering condition becoming true. If the recConfigMode is set to
  onChange or periodic, the value of this object shall be ignored.
  The amount of time the condition istrue is measured in tenths of a second.
  The accuracy of this timer is limited to +1 tenth of a second and:0 tenths
  of a second. If the trigger is true for at least the time shown in this
  parameter +1 tenth of a second, the condition shall trigger a recording. It
  is recognized that some designs only sample the condition periodically, in
  which case the condition is deemed true for at least the time indicated by
  this object before the trigger becomes true and the trigger shall always
  become true if the condition is true for a duration equal to the value
  shown in this object plus 1 tenth of a second.
```



```
  <Supplanted by> ISO26048-1-CondTrigger.fdCondTriggerValue2 (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.7.1.5"

DEFVAL     { 0 }
::= { recConfigEntry 5 }
```

14.2.7.6 Recording Configuration Compare Object Identifier Parameter

```
recConfigCompareOID OBJECT-TYPE
SYNTAX     OBJECT IDENTIFIER
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object contains the object identifier which references
  the value against which the comparison is made. If the recConfigMode is set
  to periodic, the value of this object shall be ignored. If the
  recConfigMode is set to greaterThanValue, smallerThanValue or
  hysteresisBound, this object is required to reference an object whose
  SYNTAX resolves to a ranged or unranged INTEGER. As with all other objects
  that are sub-ranged by a given implementation, an agent should return a
  badValue error if it receives a set command indicating a OID which is not
  supported by the implementation or which is not zeroDotZero.

  <Supplanted by> ISO26048-1-CondTrigger.fdCondTriggerObject (ISO 26048-1)

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.7.1.6"

DEFVAL     { zeroDotZero }
::= { recConfigEntry 6 }
```

14.2.7.7 Recording Configuration Record Object Identifier Parameter

```
recConfigRecordOID OBJECT-TYPE
SYNTAX     OBJECT IDENTIFIER
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the object identifier which indicates
  what value to record in a recording (e.g., signal states). As with all
  other objects that are sub-ranged by a given implementation, an agent
  should return a badValue error if it receives a set command indicating a
  value which is not supported by the implementation. The valid value range
  of this object shall not include any values, other than zeroDotZero, that
  do not correspond to objects that may exist within the agent, although it
  may be further restricted.
  The valid value range of this object shall not include objects under the
  following nodes:
  Security - { nema transportation devices global security }
  CHAP - { nema transportation protocols layers chap }

  <Supplanted by> ISO26048-1-Recording.fdRecordingFactorySampleOID

  <Informative> The replacement object does not contrain values other than
  requiring the user to have rights to access the parameter when configuring
  and when sampling.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.7.1.7"

DEFVAL     { zeroDotZero }
::= { recConfigEntry 7 }
```

14.2.7.8 Recording Configuration Trigger Point Parameter

```
recConfigTriggerPoint OBJECT-TYPE
```

```
SYNTAX     Integer32 (0..100)
UNITS      "percent"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object contains the value of the recording trigger point
  in percent relative to the recConfigNumEntries. The device needs to collect
  pre-event records prior to the trigger occurring and ends the recording
  after recConfigNumEntries have been recorded. A value of zero (0) means to
  start the recording once the trigger condition occurs whereas a value of
  100 means to stop the recording with the last record being the one
  collected immediately following the trigger condition occurring. If the
  trigger point is less than 100 then at least one record entry needs to
  occur after the trigger point.

  <Supplanted by> ISO26048-1-Recording.fdRecordingFactoryPreSamples

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.7.1.8"

DEFVAL     { 80 }
::= { recConfigEntry 8 }
```

14.2.7.9 Recording Configuration Sample Period Parameter

```
recConfigSamplePeriod OBJECT-TYPE
SYNTAX     Integer32 (0..65535)
UNITS      "0.1 milliseconds"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object contains the sample period for recordings
  collected at specified by this configuration. The sample period is
  expressed in units of 0.1 milliseconds. Allowable sample periods are
  restricted to a value of zero (0) or
  (recMinSamplePeriod + recSamplePeriodResolution * n)
  where n is integer, 0 <= n, and n <= (recMaxSamplePeriod-
  recMinSamplePeriod)/recSamplePeriodResolution If the value is zero (0),
  then the samples are not collected on a periodic basis, but rather a new
  sample is collected whenever the value of the object specified by
  recConfigSampleOID changes (i.e. similar to event log 'on-change' mode). A
  set to any other value results in a badValue response.

  <Supplanted by> ISO26048-1-Recording.fdRecordingFactorySamplePeriod

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.7.1.9"

DEFVAL     { 1000 }
::= { recConfigEntry 9 }
```

14.2.7.10 Recording Configuration Sample OID Parameter

```
recConfigSampleOID OBJECT-TYPE
SYNTAX     OBJECT IDENTIFIER
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object contains the object identifier which references
  the value against which the 'on-change' comparison is made. If
  recConfigSamplePeriod is non-zero, then the value of this object shall be
  ignored. As with all other objects that are sub-ranged by a given
  implementation, an agent should return a badValue error if it receives a
```



```
  set command indicating a OID which is not supported by the implementation
  or which is not zeroDotZero.

  <Supplanted by> ISO26048-1-Recording.fdRecordingFactoryMonitorOID

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.7.1.10"

DEFVAL     { zeroDotZero }
::= { recConfigEntry 10 }
```

14.2.7.11 Recording Configuration Number Entries Parameter

```
recConfigNumEntries OBJECT-TYPE
SYNTAX     Integer32 (0..4095)
UNITS      "records"
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition> This object contains the maximum number of records in a
  recording defined by this configuration. A recording which collects its
  full amount of pre-events and post events creates a recording of this
  number of entries. If this object is zero (0), then no recordings are
  created based on this configuration.

  <Supplanted by> ISO26048-1-Recording.fdRecordingFactorySampleLimit

  <Informative> If one wants to use block objects to retrieve a recording,
  then one should consider that block starting index value is limited to the
  range 00..255, and the number of entries above 255 is dependent on the size
  of the recEntry and packet size limitations.
  The replacement object has a syntax of ITSUnsigned16.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.7.1.11"

DEFVAL     { 100 }
::= { recConfigEntry 11 }
```

14.2.7.12 Recording Configuration Action Parameter

```
recConfigAction OBJECT-TYPE
SYNTAX     INTEGER { other (1),
                     disabled (2),
                     record (3) }
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>The value of this object indicates what action shall take
  place when this configuration is triggered.
  other - indicates that the action is other than defined in this standard.
  disabled - no recording is created due to this configuration.
  record - a recording is created in the recording table when this
  configuration is triggered.

  <Supplanted by> ISO26048-1-Recording.fdRecordingFactoryRowStatus

  <Informative> The replacement table is dynamic.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.7.1.12"

DEFVAL     { disabled }
::= { recConfigEntry 12 }
```

14.2.7.13 Recording Configuration Status Parameter

```
recConfigStatus OBJECT-TYPE
```

```
SYNTAX     INTEGER { other (1),
                     disabled (2),
                     record (3),
                     error (4) }
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The value of this object indicates the current status of the
  configured recording. Upon setting any object in this row of the
  recConfigTable, the agent determines if the setting is valid, and sets this
  object to one of the following states:
  other indicates that the action is successfully set to a mode other than
  that defined in this standard
  disabled indicates that the action is set to disabled
  record indicates that the action is successfully set to the record state
  after passing consistency checks.
  error indicates that the requested action could not be implemented due to a
  consistency check

  <Supplanted by> ISO26048-1-Recording.fdRecordingFactoryRowStatus

  <Informative> The replacement table is dynamic.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.7.1.13"

::= { recConfigEntry 13 }
```

14.2.8 Maximum Recordings Parameter

```
maxRecordings OBJECT-TYPE
SYNTAX     Integer32 (1..65534)
UNITS      "records"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The maximum, fixed number of rows that can be used within the
  recRecordingTable.

  <Informative> The replacement for recRecordingTable is not associated with
  an explicit row limitation just a size limitation given by
  recMechV2ClassTableSizeLimit and adminRecMechSizeLimit.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.8"

::= { recMech 8 }
```

14.2.9 Recording Table

```
recRecordingTable OBJECT-TYPE
SYNTAX     SEQUENCE OF RecRecordingEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>A table containing information about Recordings both completed
  and in process. A request for an object from a row that has not been
  instantiated or has been cleared shall return a noSuchName error.

  <Table Type> dynamic

  <Supplanted by> ISO26048-1-Recording.fdRecordingRecordingTable

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.9"

::= { recMech 9 }
```



```
recRecordingEntry OBJECT-TYPE
SYNTAX     RecRecordingEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>This object defines an entry in the recording table

  <Supplanted by> ISO26048-1-Recording.fdRecordingRecordingEntry

  <Informative> The index for the replacement table has a preceding owner
  column. It also has a delete column that allows for the deletion of the
  recording, including all of its samples.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.9.1"

INDEX      { recordingClass, recordingNumber }
::= { recRecordingTable 1 }

RecRecordingEntry ::= SEQUENCE {
        recordingClass         Integer32,
        recordingNumber        Integer32,
        recordingID            Integer32,
        recordingConfigID      Integer32,
        recordingTriggerTime   OCTET STRING,
        recordingStatus        INTEGER,
        recordingTriggerRecNum Integer32,
        recordingNumEntries    Integer32}
```

14.2.9.1 Recording Class Parameter

```
recordingClass OBJECT-TYPE
SYNTAX     Integer32 (1..254)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the class of the associated recording as
  defined in the recConfigTable.

  <Supplanted by> ISO26048-1-Recording.fdRecordingClassName

  <Informative> The syntax of the replacement object is SnmpAdminString.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.9.1.1"

::= { recRecordingEntry 1 }
```

14.2.9.2 Recording Number Parameter

```
recordingNumber OBJECT-TYPE
SYNTAX     Integer32 (1..254)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The recording number within this class for this recording.
  Recording numbers shall be assigned starting at 1 and shall increase to the
  value specified by the associated recClassLimit for the class associated
  with the rows. Recordings shall maintain a chronological ordering in the
  table, based on their recordingTriggerTime value, with the oldest recording
  of a class occupying the row with recordingNumber = 1, and subsequent
  recordings filling subsequent rows. This ordering shall be maintained for
  those rows still remaining when recordings are cleared.
```

```
  <Supplanted by> ISO26048-1-Recording.fdRecordingRecordingIndex

  <Informative> The syntax of the replacement object is ITSPositive16. The
  replacement table does not attempt to keep the oldest entry in slot one;
  clearance of rows is based on overall size rather than number of entries,
  which makes this type of row management more difficult - but since row
  numbers do not change, managers can keep track of the last row number
  retrieved and decrease the probability of missing a recording. A manager
  can also use a get-next operation to discover where the rows start in the
  table.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.9.1.2"

::= { recRecordingEntry 2 }
```

14.2.9.3 Recording ID Parameter

```
recordingID OBJECT-TYPE
SYNTAX     Integer32 (1..65534)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the recording ID that is used as an index
  into recording entries table (recEntriesTable) when accessing record
  entries that belong to this recording. The recording ID is assigned to a
  recording upon creation of its first record entry and does not change
  throughout the life of the recording. The recording IDs are not necessarily
  assigned sequentially.

  <Informative> The replacement for the recEntriesTable uses the four indices
  owner, class name, recording ID, and sample number rather than using a
  single identifier to join class name and recording.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.9.1.3"

::= { recRecordingEntry 3 }
```

14.2.9.4 Recording Configuration ID Parameter

```
recordingConfigID OBJECT-TYPE
SYNTAX     Integer32 (1..65535)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the recording configuration ID (from the
  recConfigTable) that caused this table entry. It indicates the row in the
  recConfig table responsible for this recording entry.

  <Supplanted by> ISO26048-1-Recording.fdRecordingRecordingTrigger

  <Informative> The syntax of the replacement object is SnmpAdminString.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.9.1.4"

::= { recRecordingEntry 4 }
```

14.2.9.5 Recording Trigger Time Parameter

```
recordingTriggerTime OBJECT-TYPE
SYNTAX     OCTET STRING
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> The time that the recording was triggered at. This object
  consists of a string of six (6) octets. The first four (4) octets reflect
```



```
  the value of globalTime when the recording was triggered. The last two (2)
  octets reflect the time in milliseconds the trigger occurred after the
  start of the second. The recording shall be detected and timestamped within
  one recSamplePeriodResolution unit of time from the recording being
  triggered.

  <Supplanted by> ISO26048-1-Recording.fdRecordingRecordingDate &
  recMechV2RecordingTime

  <Informative> The replacement objects conform to the new date/time formats.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.9.1.5"

::= { recRecordingEntry 5 }
```

14.2.9.6 Recording Status Parameter

```
recordingStatus OBJECT-TYPE
SYNTAX     INTEGER { available (1),
                     preevent (2),
                     triggered (3),
                     complete (4) }
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The value of this object reflects the state of the recording
  located in this row.

  <Format>

        Value      Description

        available  this row is available for a new recording to be initiated
                   for this recording class. When a recording is cleared, the
                   value is set to available

        preevent   the recording defined by recConfigID is collecting
                   pre-event record entries. Note: If the trigger point is
                   set to zero (0) percent or the trigger condition is
  already
                   satisfied when the recConfigID is configured, then the
                   value transitions straight from available to triggered.

        triggered  the recording defined by recConfigID has triggered and is
                   now collecting post event records. If the trigger point
  was
                   set to 100 percent, then the value transitions straight
  from
                   preevent to complete. If a recording was triggered and the
                   device experienced a power failure, then upon power
                   restoration it shall change the value to complete.
                   Triggered recordings shall survive a power outage.

        complete   the recording defined by recConfigID is now complete (i.e.
                   collected all of its post events) and ready for retrieval.
```

```
                    Completed recordings shall survive a power outage.

  <Supplanted by> ISO26048-1-Recording.fdRecordingRecordingStatus

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.9.1.6"

::= { recRecordingEntry 6 }
```

14.2.9.7 Recording Trigger Record Number Parameter

```
recordingTriggerRecNum OBJECT-TYPE
SYNTAX     Integer32 (0..65535)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>This object contains the record entry number of the trigger
  record entry. A value of zero (0) means that the recording has not
  triggered yet.

  <Supplanted by> ISO26048-1-Recording.fdRecordingRecordingTriggerSample

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.9.1.7"

::= { recRecordingEntry 7 }
```

14.2.9.8 Number of Entries in Recording Parameter

```
recordingNumEntries OBJECT-TYPE
SYNTAX     Integer32 (0..65535)
UNITS      "entries"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The current number of recording entries in this recording. A
  value of zero (0) is only valid if the recording is available for use.

  <Informative> A completed recording does not always have
  recConfigNumEntries record entries in it.

  <Supplanted by> ISO26048-1-Recording.fdRecordingRecordingNumSamples

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.9.1.8"

::= { recRecordingEntry 8 }
```

14.2.10 Maximum Recording Entries Parameter

```
maxRecEntries OBJECT-TYPE
SYNTAX     Integer32 (1..65535)
UNITS      "records"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The maximum, fixed number of rows that can be used within the
  recEntriesTable.

  <Informative> The replacement for recEntriesTable is not associated with an
  explicit row limitation just a size limitation given by
  recMechV2ClassTableSizeLimit and adminRecMechSizeLimit.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.10"

::= { recMech 10 }
```


14.2.11 Recording EntriesTable

```
recEntriesTable OBJECT-TYPE
SYNTAX     SEQUENCE OF RecEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>A table containing the discrete Recording entry records. A
  request for an object from a row that has not been instantiated or has been
  cleared shall return a noSuchName error.

  <Table Type> dynamic

  <Supplanted by> ISO26048-1-Recording.fdRecordingSampleTable

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.11"

::= { recMech 11 }

recEntry OBJECT-TYPE
SYNTAX     RecEntry
MAX-ACCESS not-accessible
STATUS     deprecated
DESCRIPTION
  "<Definition>This object defines an entry in the recording entry table. All
  entries within a recording shall be ordered chronologically from oldest to
  newest.

  <Supplanted by> ISO26048-1-Recording.fdRecordingSampleEntry

  <Informative> The index for the replacement table uses four fields: owner,
  class, recording, and sample.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.11.1"

INDEX      { recordingID, recEntryNumber }
::= { recEntriesTable 1 }

RecEntry ::= SEQUENCE {
        recEntryNumber Integer32,
        recSampleTime  OCTET STRING,
        recValue       Opaque}
```

14.2.11.1 Record Entry Number Parameter

```
recEntryNumber OBJECT-TYPE
SYNTAX     Integer32 (0..65535)
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The entry number within this recording for this record. Entry
  numbers shall be assigned starting at 1 and shall increase up to the value
  specified by the associated recConfigNumEntries. A value of zero indicates
  that the row is unused (cleared).

  <Supplanted by> ISO26048-1-Recording.fdRecordingSampleNum

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.11.1.1"

::= { recEntry 1 }
```

14.2.11.2 Record Entry Sample Time Parameter

```
recSampleTime OBJECT-TYPE
```

```
SYNTAX     OCTET STRING
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The time that the record entry was sampled at. This object
  consists of a string of six (6) octets. The first four (4) octets reflect
  the value of controllerLocalTime when the entry was sampled. The last two
  (2) octets reflect the time in milliseconds the sample occurred after the
  start of the second. The entry shall be collected within one
  recSamplePeriodResolution unit of time from the sample being triggered and
  timestamped with the time of collection

  <Supplanted by> ISO26048-1-Recording.fdRecordingSampleTime

  <Informative> The syntax for the replacement object is ITSDailyTimeStamp,
  which does not provide the date. However, the date is provided in the
  Trigger time. Assuming the sample period is relatively short, this should
  not cause a problem. For recordings with many samples and/or long sample
  intervals, the date can be calculated - with the one exception of on change
  sampling for rare events. owner, class, recording, and sample.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.11.1.2"

::= { recEntry 2 }
```

14.2.11.3 Record Entry Value Parameter

```
recValue OBJECT-TYPE
SYNTAX     Opaque
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition>The value of this object is set to the BER encoding of the
  value referenced by the recConfigRecordOID of the associated
  recordingConfigID when the entry was collected. Its length is variable. The
  value shall not contain any padding characters either before or after the
  values.

  <Supplanted by> ISO26048-1-Recording.fdRecordingSampleValue

  <Informative> Opaque objects are doubly wrapped. For SNMP operations, which
  use BER, this would be {type, length, {type, length, value}}. For example,
  a zero-length octet string, would be encoded in BER as 0x44 02 04 00. For
  STMP or SFMP operations, which use OER, this would be { length, {type,
  length, value}}. For example, the same example would be encoded in OER as
  0x02 04 00.
  The syntax of the replacement object is ITSOerString.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.11.1.3"

::= { recEntry 3 }
```

14.2.12 Total Recordings Counter Parameter

```
numRecordings OBJECT-TYPE
SYNTAX     Integer32 (0..65535)
UNITS      "recordings"
MAX-ACCESS read-only
STATUS     deprecated
DESCRIPTION
  "<Definition> This object is a counter that gets incremented every time a
  recording is completed and shall initialize to zero at power up. The value
  shall roll over each time it exceeds the maximum of 65535.
```



```
  <Supplanted by> ISO26048-1-Recording.fdRecordingOwnerRecordingCtr &
  adminRecMechV2RecordingCtr

  <Informative> The syntax of the replacement objects is ZeroBasedCounter32.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.12"

::= { recMech 12 }
```

14.2.13 Clear Recording Classes

```
recClearClasses OBJECT-TYPE
SYNTAX     Integer32 (0..255)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object commands the device to clear a recording class
  from recClassTable. A SET of zero has no effect on any recording classes. A
  SET = n, n <= maxRecClasses, shall cause recClassNumber = n to be deleted
  from the recClassTable and all related recording configurations, their
  recordings, their recording entries, their recording activities shall be
  deleted from the recConfigTable, recRecordingTable, and recEntriesTable
  respectively. A SET of 255 shall cause all entries in the recClassTable,
  recConfigTable, recRecordingTable, and recEntriesTable to be deleted.
  Upon performing the action requested, the device shall SET this object to
  zero (0). A GET shall always return zero (0).

  <Supplanted by> ISO26048-1-Recording.fdRecordingClassRowStatus,
  recMechV2OwnerClearAllClasses, & adminRecMechClearAllClasses

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.13"

::= { recMech 13 }
```

14.2.14 Clear Recording Configurations

```
recClearConfigurations OBJECT-TYPE
SYNTAX     Integer32 (0..65535)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object commands the device to clear a recording
  configuration from the recConfigTable. A SET of zero has no effect on any
  recording configurations. A SET = n, n <= maxRecConfigs, shall cause
  recConfigID = n to be deleted from the recRecordingTable and all related
  recordings, their recording entries, and their recording activities shall
  be deleted from the recRecordingTable and recEntriesTable respectively. A
  SET of n = 65535 shall cause all entries in the recConfigTable,
  recRecordingTable, and recEntriesTable to be deleted. Upon performing the
  action requested, the device shall SET this object to zero (0). A GET shall
  always return zero (0).

  <Supplanted by> ISO26048-1-Recording.fdRecordingFactoryRowStatus,
  recMechV2OwnerClearAllFactories, adminRecMechClearAllFactories,
  COND_NOTIFICATIONS-MIB.fdCondTriggerRowStatus (ISO 26048-1)

  <Informative> There is not a clear all for the conditional trigger.

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.14"

::= { recMech 14 }
```

14.2.15 Clear Recording Data

```
recClearRecordingData OBJECT-TYPE
```

```
SYNTAX     Integer32 (0..65535)
MAX-ACCESS read-write
STATUS     deprecated
DESCRIPTION
  "<Definition>This object commands the device to clear a recording from the
  recRecordingTable and recEntriesTable. A SET of zero has no effect on any
  recordings. A SET = n, n <= maxRecordings, shall cause recRecordingID = n
  to be deleted from the recRecordingTable and all record entries related to
  the recording to be deleted from recEntriesTable. A SET of n = 65535 shall
  cause all entries in both the recRecordingTable and recEntriesTable to be
  deleted.
  Upon performing the action requested, the device shall SET this object to
  zero (0). A GET shall always return zero (0).

  <Informative> A device shall immediately start collecting new pre-event
  records for all active recording configurations.

  <Supplanted by> ISO26048-1-Recording.fdRecordingRecordingDelete,
  recMechV2OwnerClearAllRecordings, & adminRecMechClearAllRecordings

  <Object Identifier> 1.3.6.1.4.1.1206.4.1.1.7.9.15"

::= { recMech 15 }
END
```


Annex A OBJECT TREE AND UML CLASS DIAGRAMS [INFORMATIVE] [DEPRECATED]

Annex A provides an overview of NTCIP 1201 object types by presenting relevant branches of the object identifier naming tree and by presenting the object types in UML Class Diagrams. The information presented in Annex A is defined elsewhere in this document; however, these figures provide a high-level overview of the data contained in this document in a concise manner and are provided as a useful reference tool.

A.1 OBJECT IDENTIFIER NAMING TREE

Figure 2 depicts the location of nodes representing the MODULE-IDENTITY macros contained within this document.

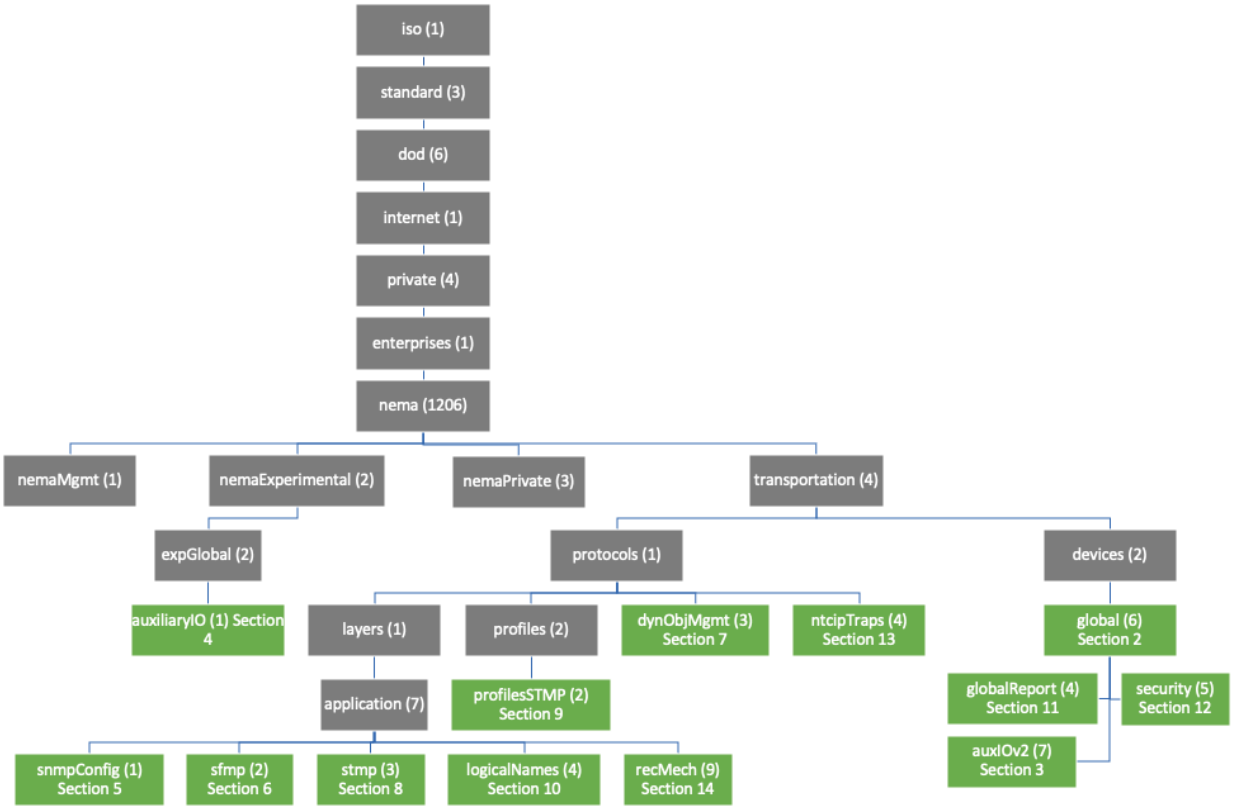

Figure 2: MODULE-IDENTITY nodes

Figure 3 through Figure 18 extend the tree shown in Figure 2 by showing the relevant nodes defined in each of the MIBs contained in Section 2 through Section 14 .

In each diagram, gray boxes represent simple nodes, green boxes represent MIBs (i.e., defined with MODULE-IDENTITY), and boxes shown in blue represent object types. An ellipsis (…) represents a repetition of the initial characters for the given context. For example, within the recMech MIB, the ellipsis either represents the text "recMech" or, when occurring within a specific table, the root of the table name (e.g., "recMechClass").

NOTE — The object types within a MIB typically appear under the MODULE-IDENTITY node but can include objects located in other parts of the tree. This is especially true for administrative objects so that appropriate data access can be more easily configured.

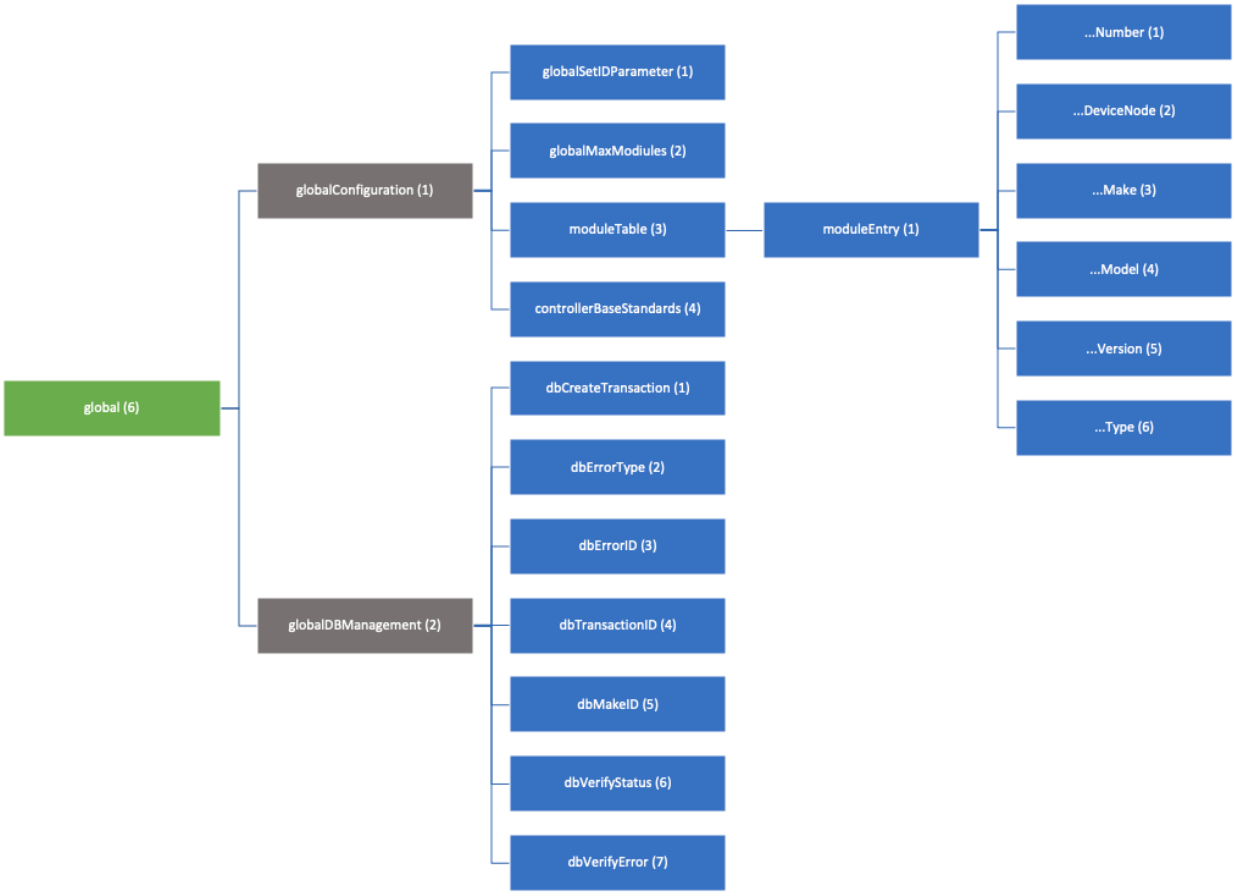

Figure 3: Nodes Defined in NTCIP 1201-Global MIB (Part 1 of 3: Base Objects)

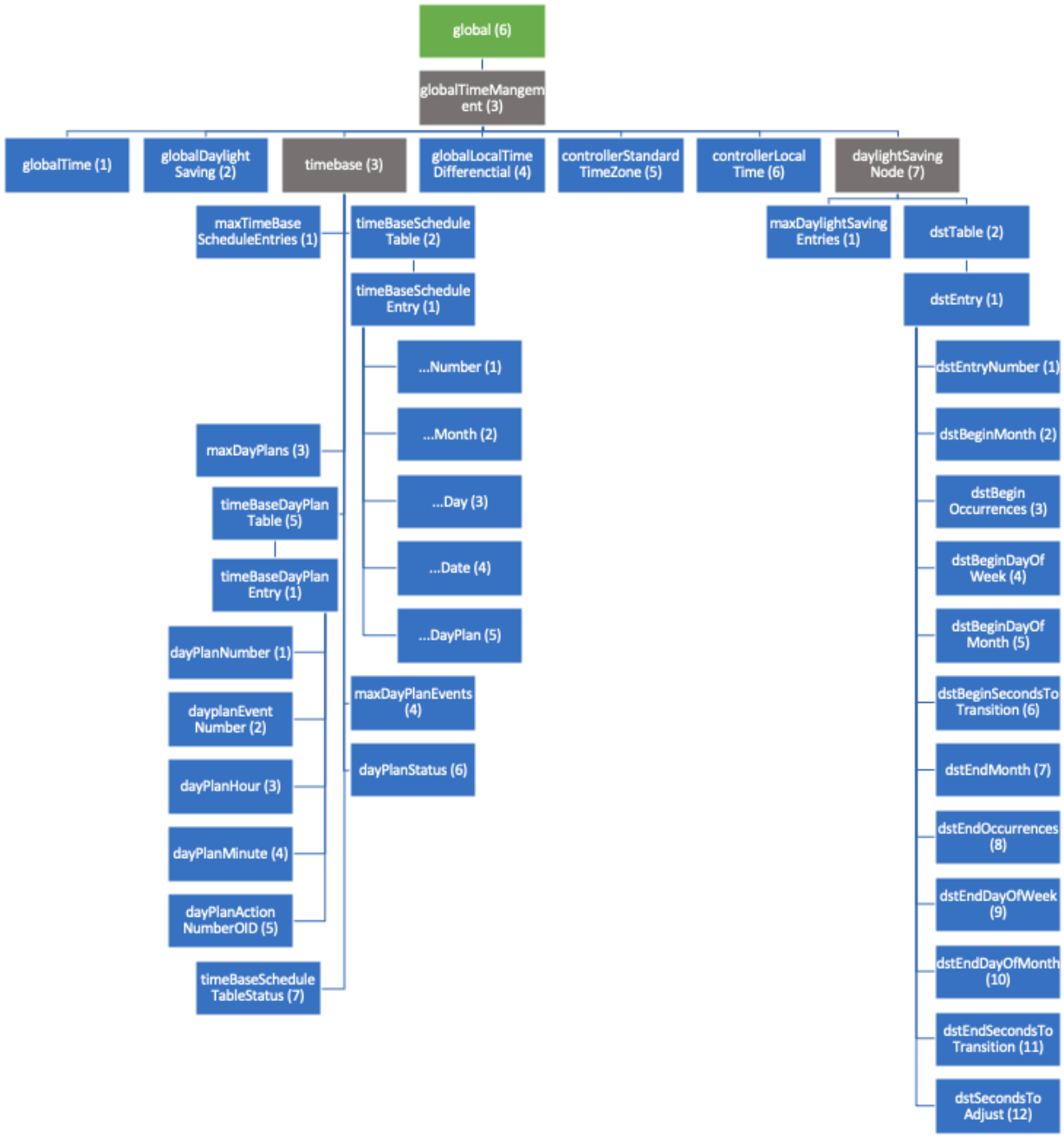

Figure 4: Nodes Defined in NTCIP 1201-Global MIB (Part 2 of 3: Time Management)

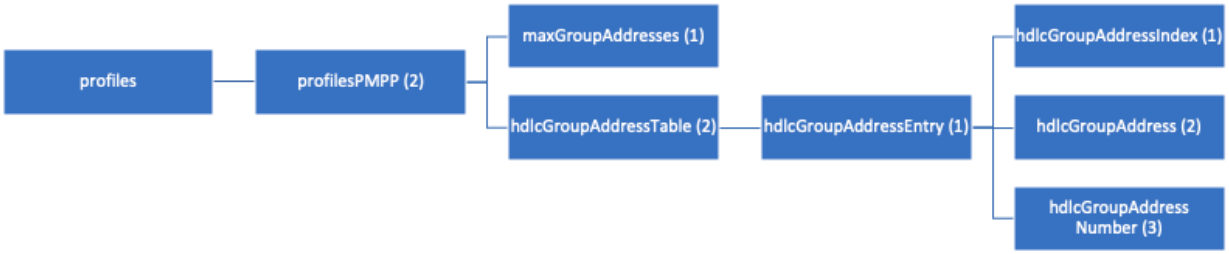

Figure 5: Nodes Defined in NTCIP 1201-Global MIB (Part 3 of 3: PMPP Objects)

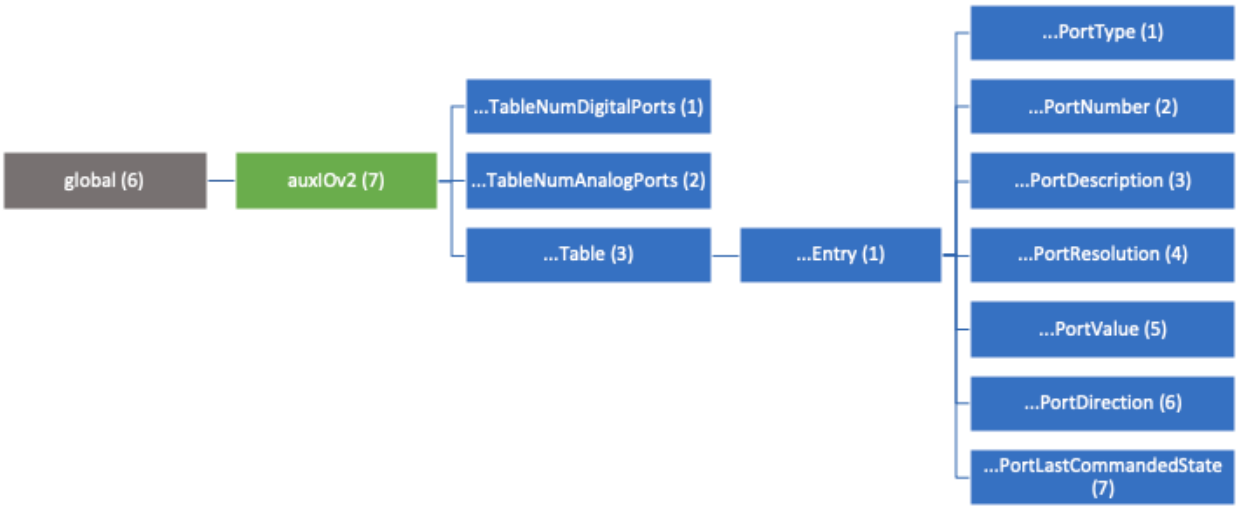

Figure 6: Nodes Defined in NTCIP1201-AuxIOv2 MIB

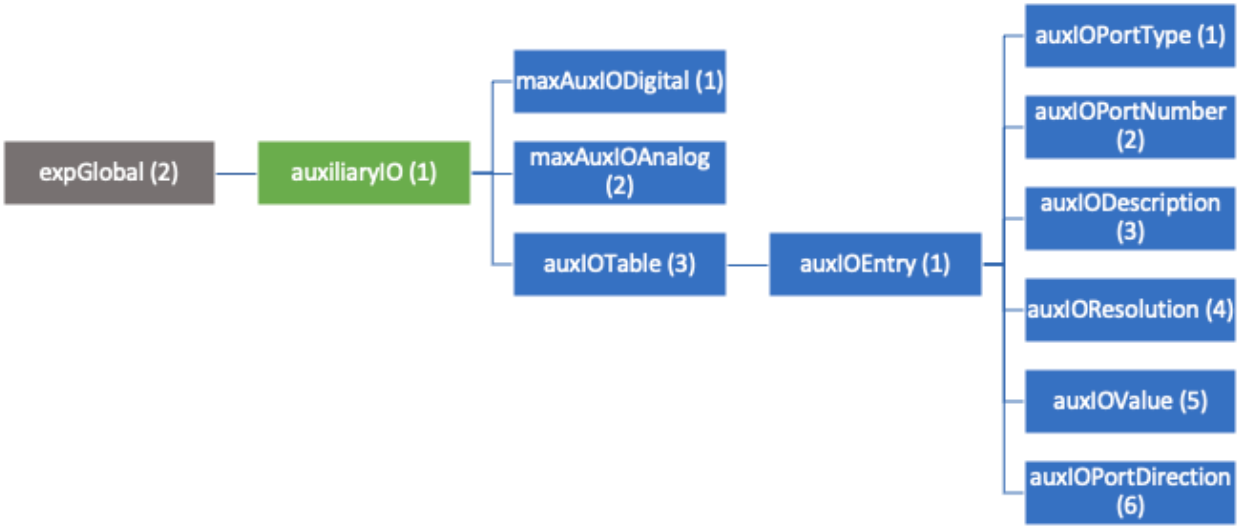

Figure 7: Nodes Defined in NTCIP1201-AuxIO MIB

Figure 8: Nodes Defined in NTCIP1201-SNMPConfig MIB

Figure 9: Nodes Defined in NTCIP1201-SFMP MIB

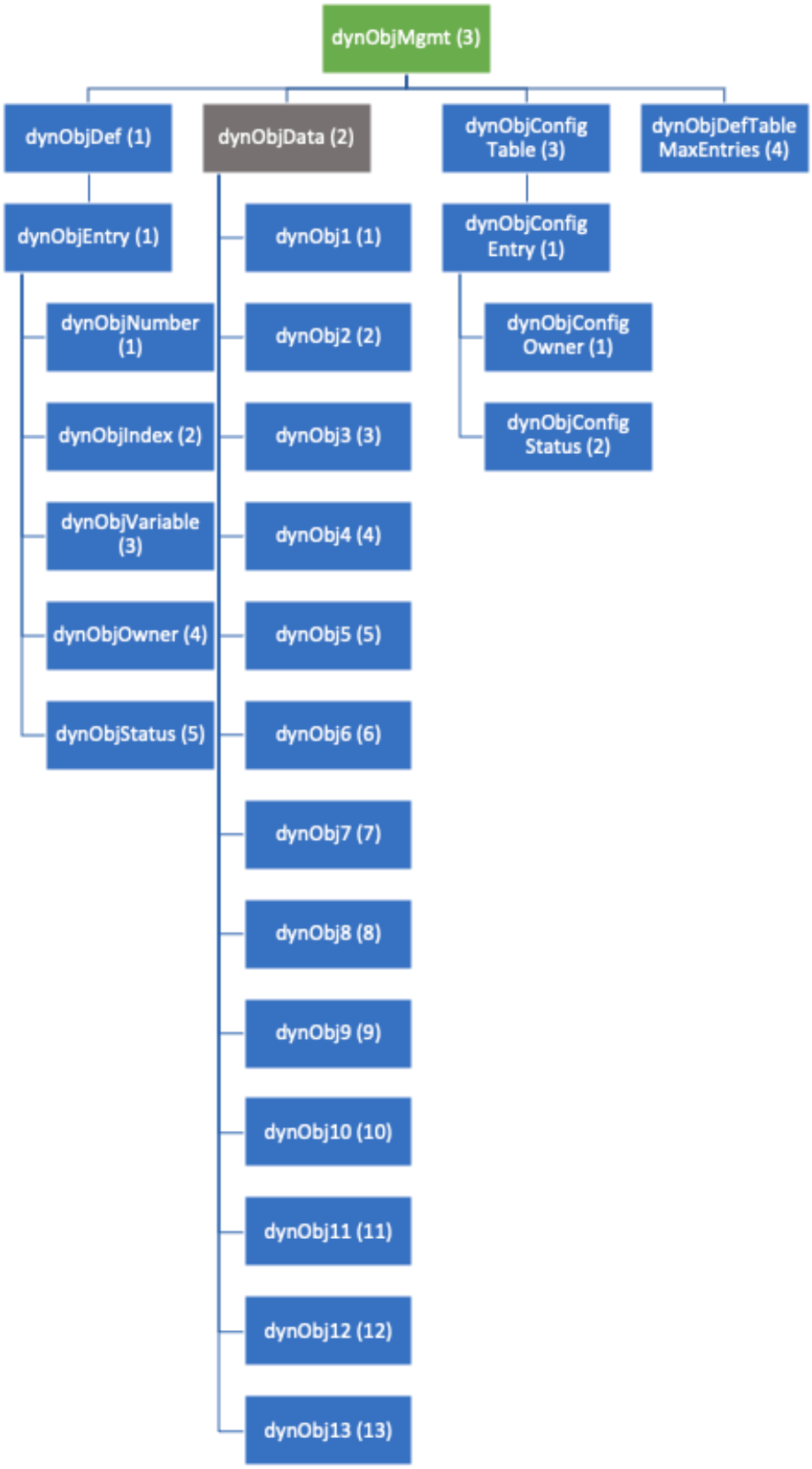

Figure 10: Nodes Defined in NTCIP1201-DynObjMgmt MIB

Figure 11: Nodes Under NTCIP1201-StmpStatistics MIB

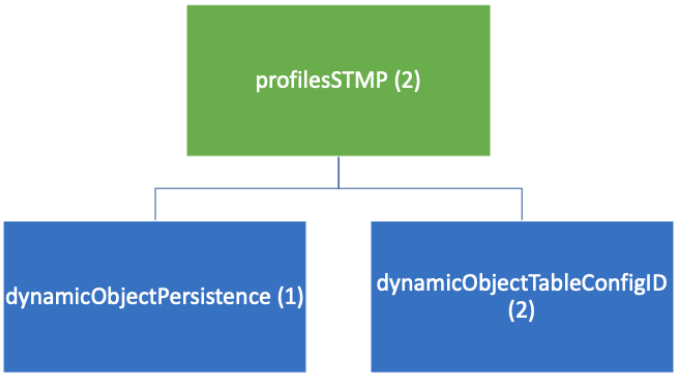

Figure 12: Nodes Under NTCIP1201-ProfilesSTMP MIB

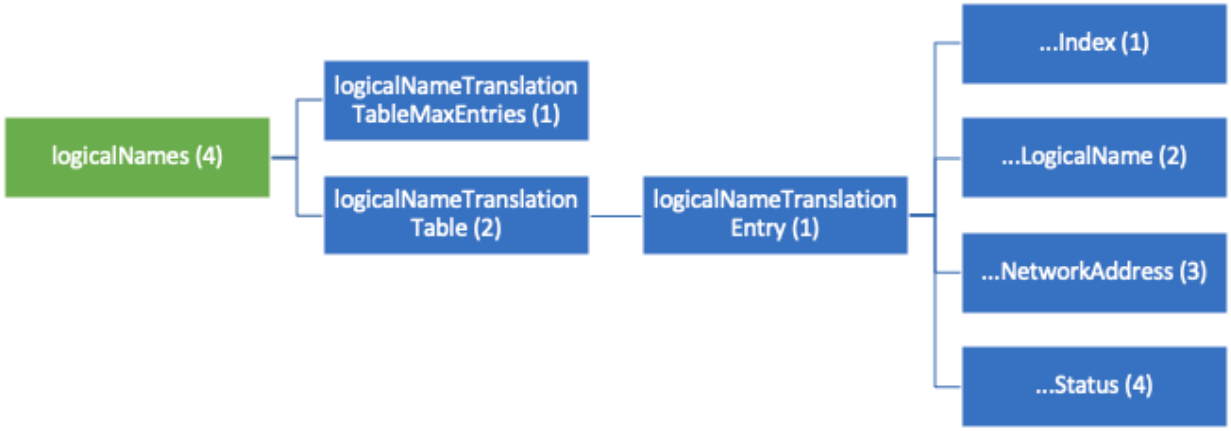

Figure 13: Nodes under NTCIP1201-LogicalNames MIB

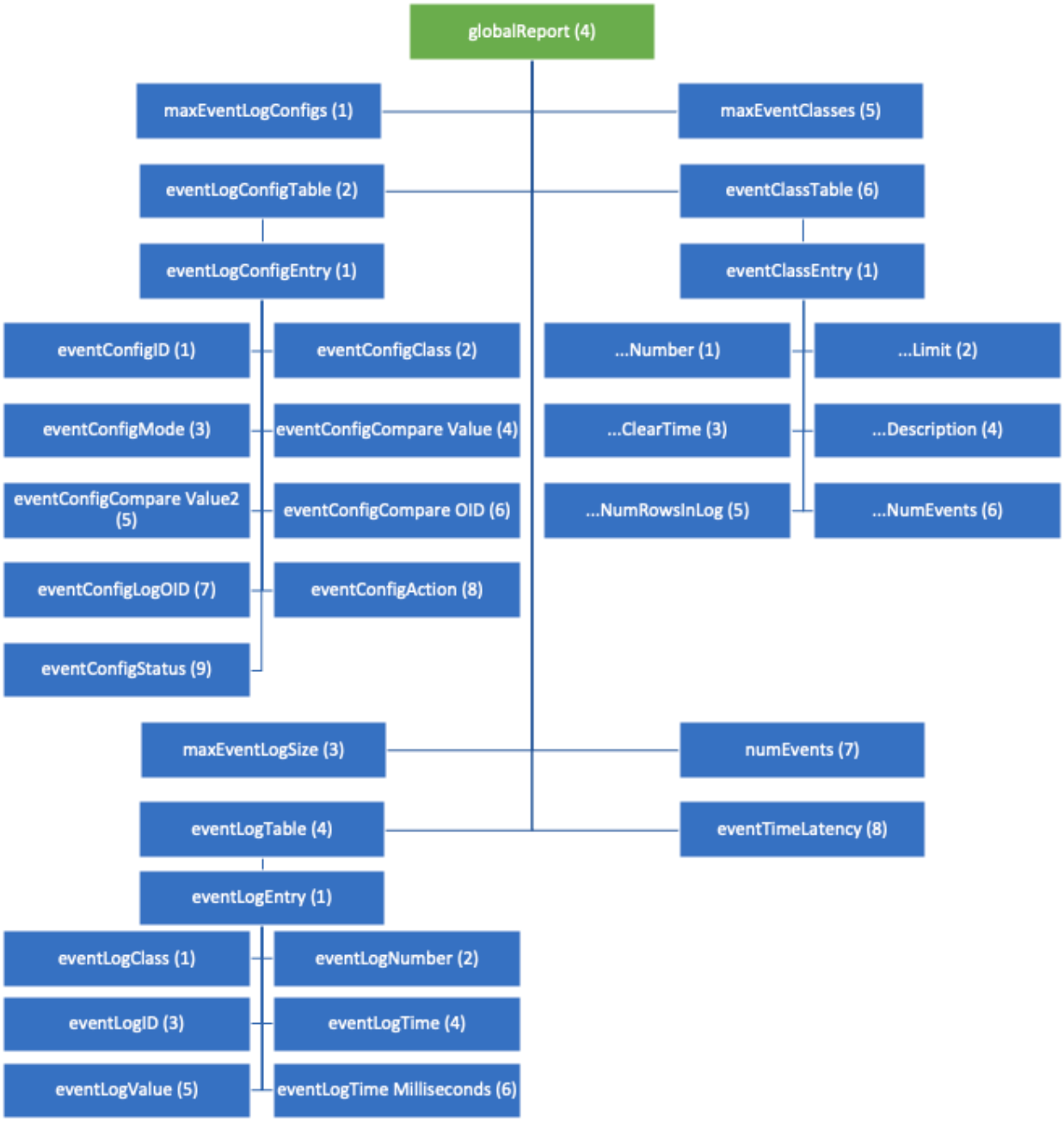

Figure 14: Nodes Defined in NTCIP1201-GlobalReport MIB

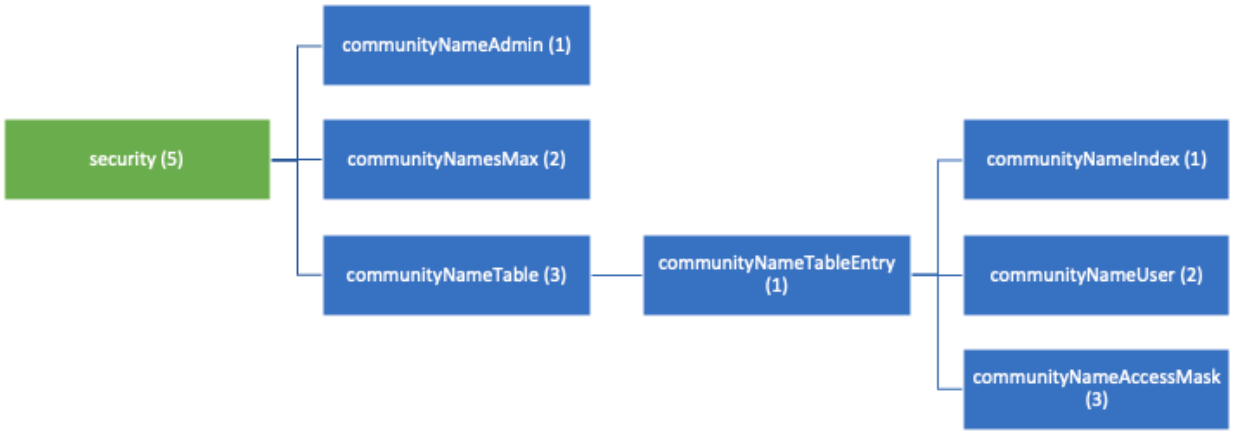

Figure 15: Nodes Defined in NTCIP1201-Security MIB

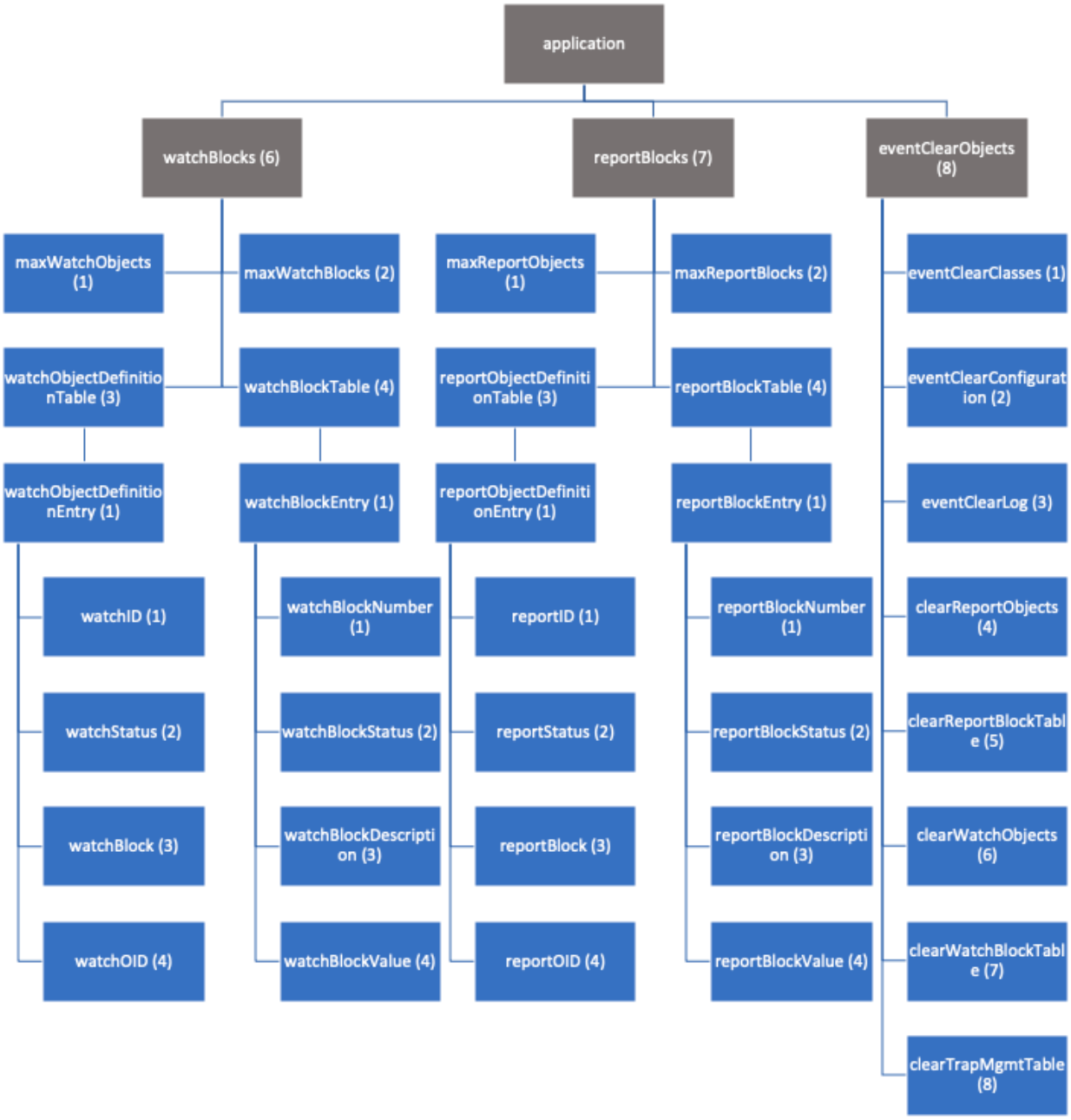

Figure 16: Nodes Defined in NTCIP1201-NtcipTraps MIB (Part 1 of 2: Application Objects)

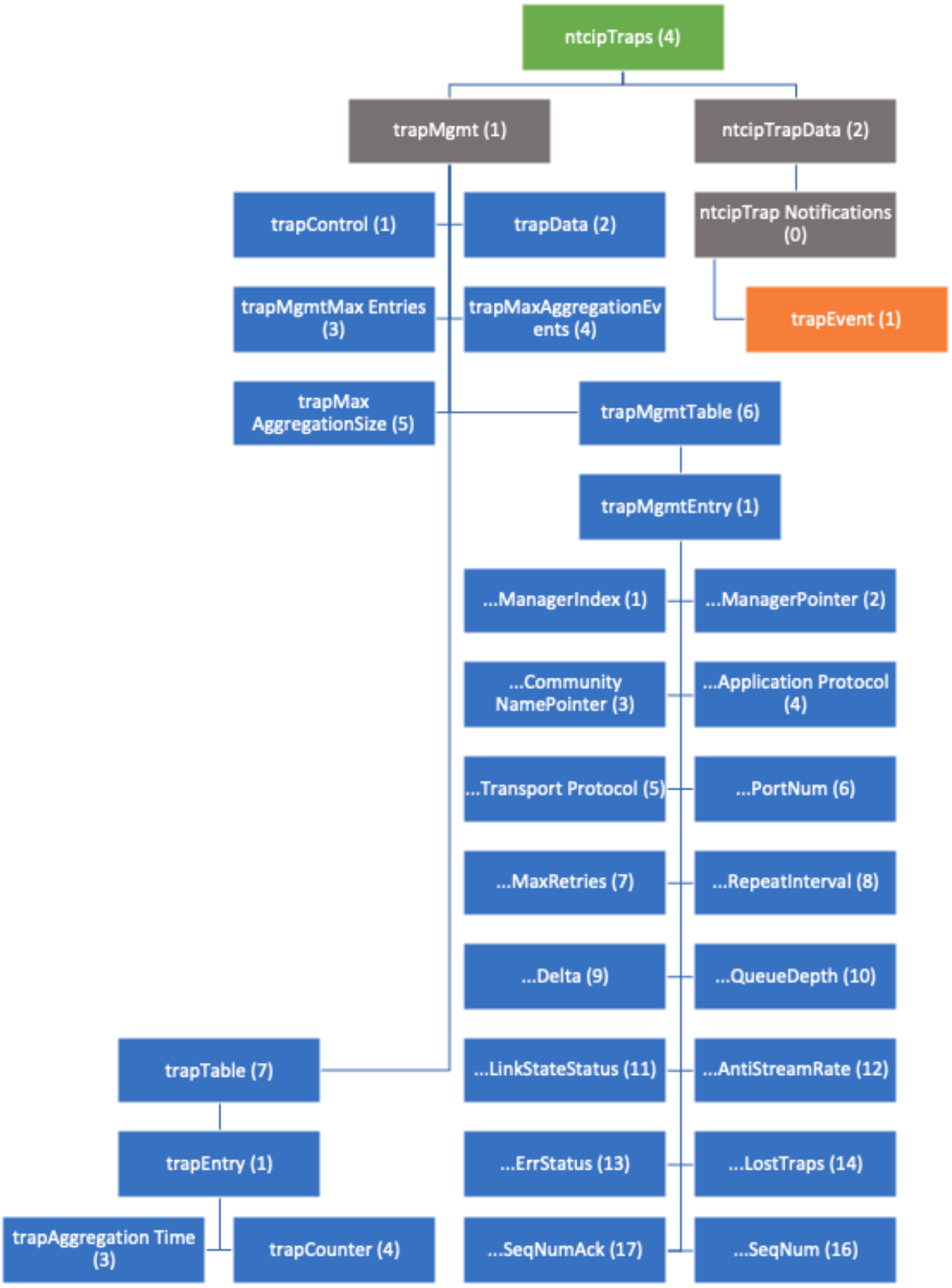

Figure 17: Nodes Defined in NTCIP1201-NtcipTraps MIB (Part 2 of 2: Trap Management)

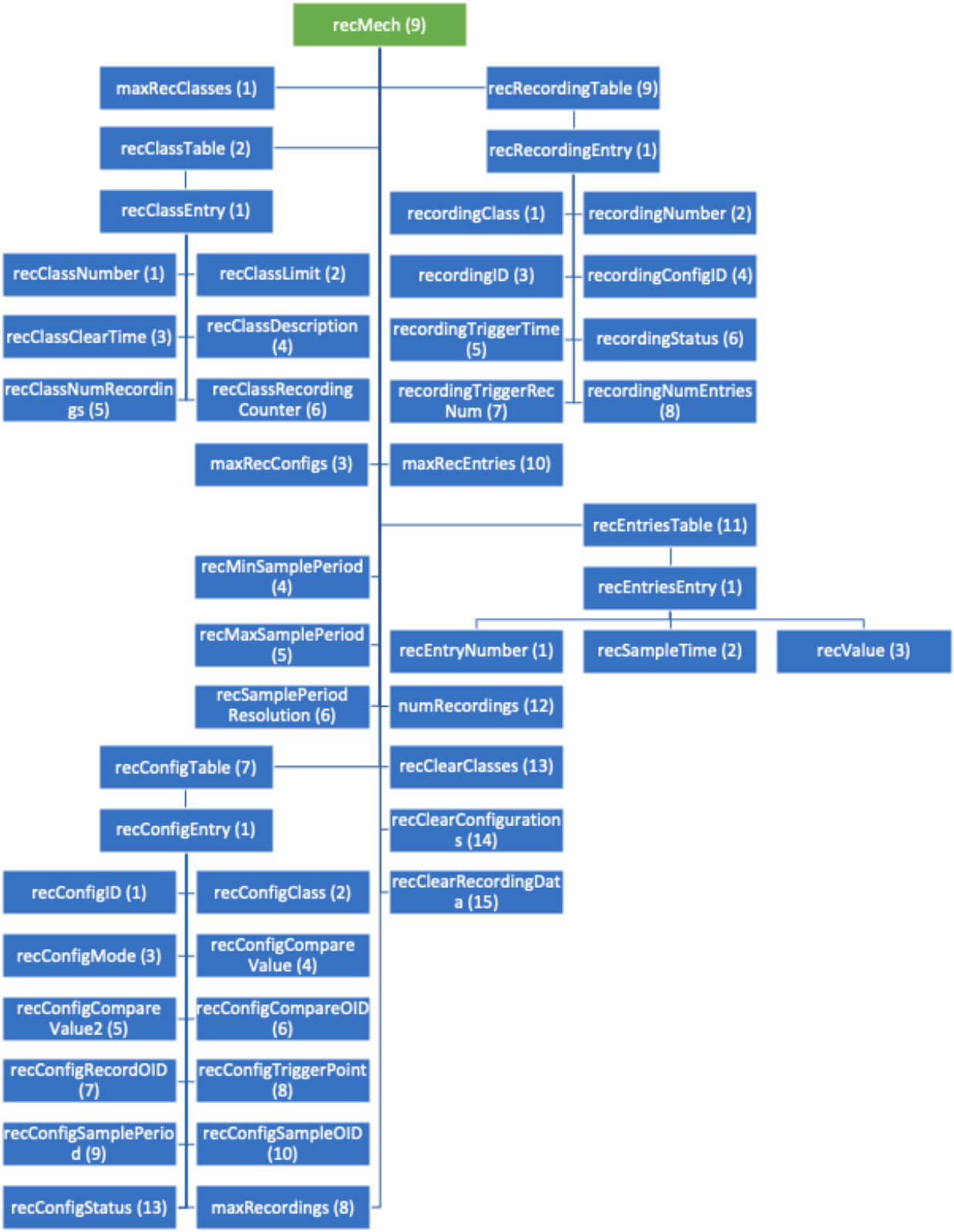

Figure 18: Nodes Defined in NTCIP1201-RecMech MIB

A.2 UML CLASS DIAGRAMS

Although object types defined within MIBs are not formally structured into class models, they can easily be presented in UML class diagrams by mapping each object type to an attribute of a defined class. through provide UML class diagrams and associated mapping tables to depict how the object types defined in this document relate to one another and to objects defined in other standards.

A.2.1 Controller Class Diagram

Figure 19 depicts the high-level components of data stored within a controller in UML notation.

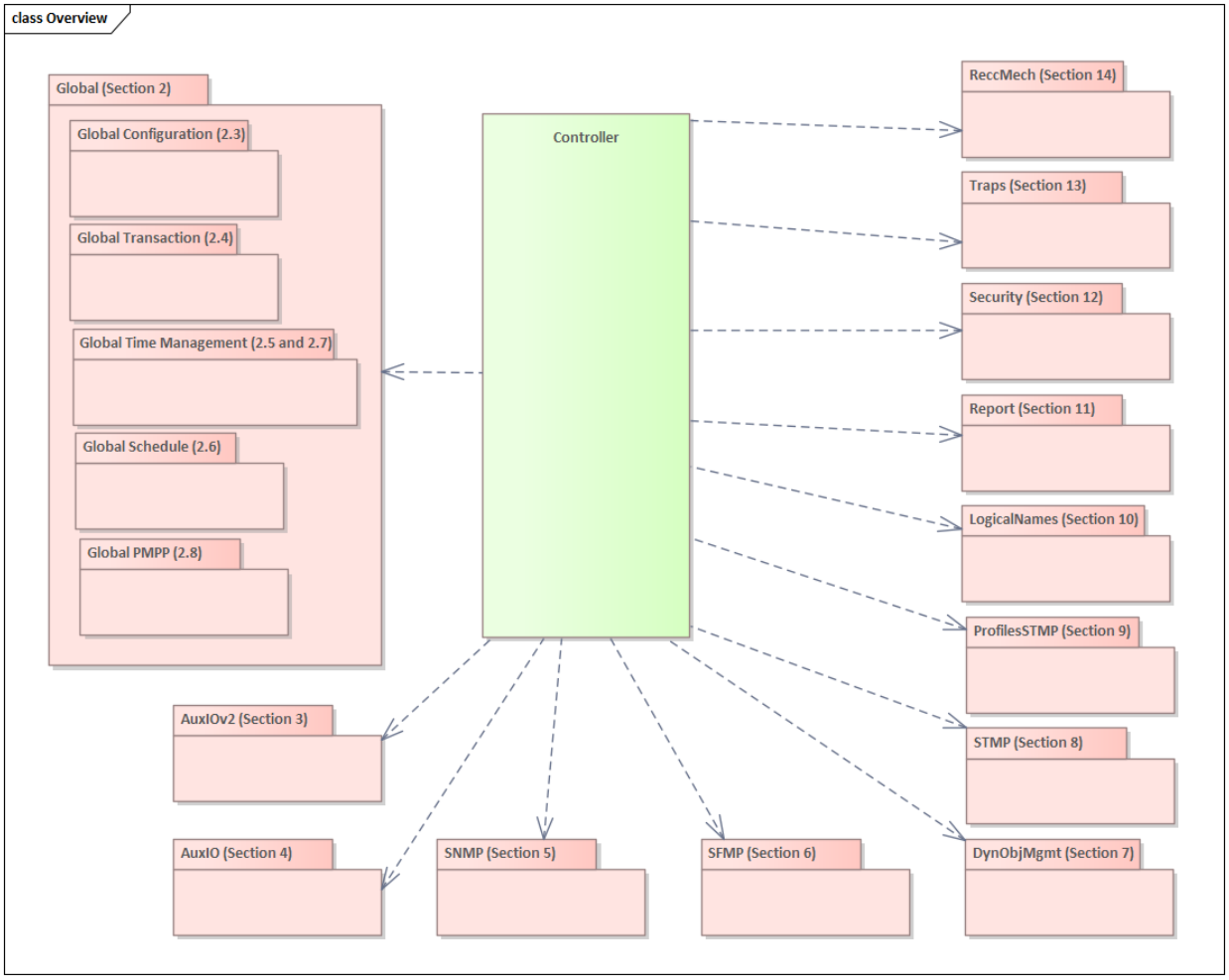

Figure 19: Controller Class Diagram

Figure 23 indicates that a Controller can include the following major components, which correspond to the sections of this document:

1. Global features, which include:
   a. Global configuration
   b. Global transaction
   c. Global time management
   d. Global schedule
   e. Global PMPP data
2. auxiliary input/output version 2
3. auxiliary input/output (version 1)
4. SNMP data

5. SFMP data
6. dynamic object management
7. STMP data
8. STMP profile data
9. Logical names
10. Event reporting
11. Security
12. Traps
13. Recording mechanism

All parts of this document have been deprecated.

NOTE — Two different versions of the Aux I/O object definitions are currently defined. The first was defined under an experimental node of the global tree and was originally contained in NTCIP 1203 v01. Because of the applicability of the Aux I/O objects to more than dynamic message signs (DMS), these objects were moved to NTCIP 1201 v02, and moved from the experimental node to a permanent node under the global tree. To differentiate these two sets of objects, the objects associated with Aux I/O in NTCIP 1201 v02 have had ‘v2’ added in the object name. They are both now deprecated.

More detailed class diagrams for each feature are provided in Figure 20 through Figure 36 .

A.2.2 Configuration Information

Figure 20 depicts the configuration data stored by a controller.

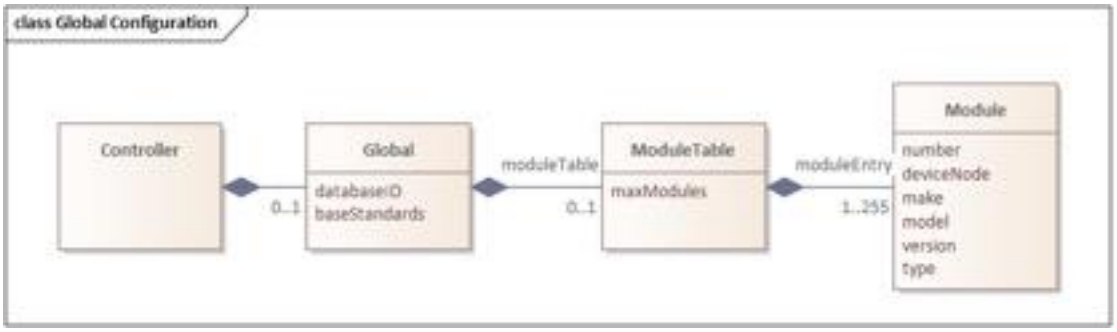

Figure 20: Class Diagram of the Configuration Information

A controller may have a database identifier, an indication of the standards that it supports, and zero or one module tables. If there is a module table, then the controller may additionally support an object defining the maximum number of modules supported within the table, which may be between one and 255, as indicated by the link to the Module class. For each module, the controller may support a variety of information, including:

1. the module number;
2. the device node to which the module relates;
3. the make of the module;
4. the model of the module;
5. the version of the module; and
6. the type of module.

The mapping of each attribute in this class to object types are defined in Table 1.

Table 1: Configuration Information Mapping to Class Diagram

Property	Object Type
Global.databaseID	globalSetIDParameter
Global.baseStandards	controllerBaseStandards
ModuleTable.maxModules	globalMaxModules
Module.number	moduleNumber
Module.deviceNode	moduleDeviceNode
Module.make	moduleMake
Module.model	moduleModel
Module.version	modelVersion
Module.type	moduleType

A.2.3 Transaction Information

Figure 21 depicts the transaction state data stored by a controller.

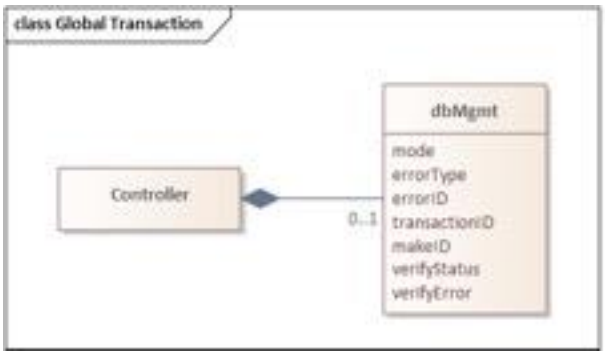

Figure 21: Class Diagram of the Transaction Service

A controller may support a transaction feature. The following information characterizes the feature as defined in NTCIP 1103 v03:

1. a mode;
2. a verify status; and
3. a verification error message.

The errorType, errorID, transactionID, and makeID objects might also exist, but they were deprecated in previous versions of the MIB.

The mapping of each attribute in this class to object types are defined in Table 2.

Table 2: Transaction Service Mapping to Class Diagram

Property	Object Type
DbMgmt.mode	dbCreateTransaction
DbMgmt.errorType	dbErrorType
DbMgmt.errorID	dbErrorID
DbMgmt.transactionID	dbTransactionID
DbMgmt.makeID	dbMakeID
DbMgmt.verifyStatus	dbVerifyStatus
DbMgmt.verifyError	dbVerifyError

A.2.4 Time and Daylight Saving Time (DST) Information

Figure 22 depicts the time-related and DST-related data stored by a controller.

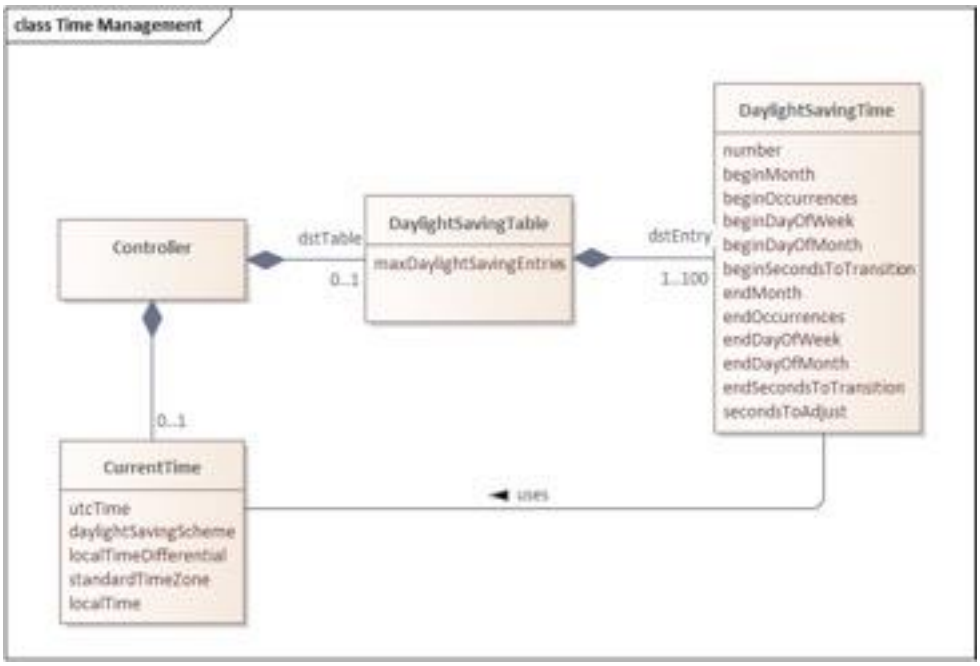

Figure 22: Class Diagram of Time/DST Information

A controller may store time-related information, including:

1. the current time in UTC
2. an indication of the daylight saving mode
3. an indication of the time zone when in standard time
4. an indication of the local time, which includes and accounts for DST

The controller might also support a local time differential from UTC, although this object was previously deprecated.

The controller may also support a DST Table. If this is supported, it is characterized by the maximum number of entries that it may contain, which is required to be at least one and may be no greater than 100. For each entry, the following information may be stored:

1. a DST number
2. a begin DST month indicating in which month the DST may begin
3. a begin DST occurrences parameter indicating the number of occurrences of the specific day of week required to have occurred within the selected month before DST begins [NOTE—“beginOccurances” (sic) is misspelled in the figure, but is spelled correctly in the MIB object definitions.]
4. a begin DST day of week indicating on which day of week the DST may begin
5. a begin DST day of month indicating on which day of month the DST may begin
6. a begin DST Seconds to Transition parameter indicating after how many seconds after midnight of a particular day the DST may begin
7. an end DST month indicating in which month the DST may begin
8. an end DST occurrences parameter indicating number of occurrences of the specific day of week required to have occurred within the selected month before DST ends
9. an end DST day of week indicating on which day of week the DST may end

10. an end DST day of month indicating on which day of month the DST may end
11. an end DST Seconds to Transition parameter indicating after how many seconds after midnight of a particular day the DST may end
12. a seconds to adjust parameter indicating by how many seconds the DST time is offset from the local reference time when DST as defined by this entry is in effect

The mapping of each attribute in this class to object types are defined in Table 3.

Table 3: Time/DST Information Mapping to Class Diagram

Property	Object Type
CurrentTime.utcTime	globalTime
CurrentTime.daylightSavingScheme	globalDaylightSaving
CurrentTime.localTimeDifferential	globalLocalTimeDifferential
CurrentTime.standardTimeZone	controllerStandardTimeZone
CurrentTime.localTime	controllerLocalTime
DaylightSavingTable.maxDaylightSavingEntries	maxDaylightSavingEntries
DaylightSavingTime.number	dstEntryNumber
DaylightSavingTime.beginMonth	dstBeginMonth
DaylightSavingTime.beginOccurrences	dstBeginOccurrences
DaylightSavingTime.beginDayOfWeek	dstBeginDayOfWeek
DaylightSavingTime.beginDayOfMonth	dstBeginDayOfMonth
DaylightSavingTime.beginSecondsToTransition	dstBeginSecondsToTransition
DaylightSavingTime.endMonth	dstEndMonth
DaylightSavingTime.endOccurrences	dstEndOccurrences
DaylightSavingTime.endDayOfWeek	dstEndDayOfWeek
DaylightSavingTime.endDayOfMonth	dstEndDayOfMonth
DaylightSavingTime.endSecondsToTransition	dstEndSecondsToTransition
DaylightSavingTime.secondsToAdjust	dstSecondsToAdjust

A.2.5 Generic Schedule Information

Figure 23 depicts the generic schedule-related data stored by a controller.

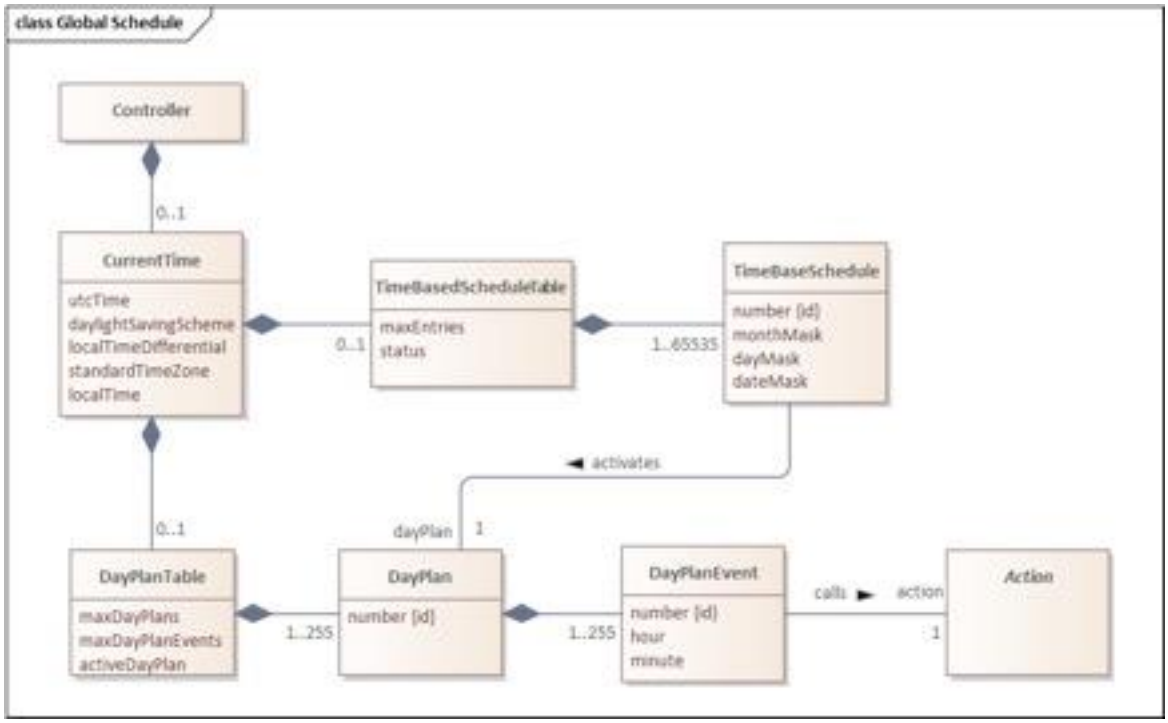

Figure 23: Class Diagram of Generic Schedule-Related Information

Figure 29 indicates a controller may store schedule information, including:

1. the current time in UTC
2. an indication of the time zone when in standard time
3. an indication of the local time, which includes and accounts for DST

The controller may also support a timebase schedule table. If supported, it is characterized by the maximum number of entries that it may contain, which is required to be at least one and may be no greater than 65535, and a status. For each entry, the following information may be stored:

1. a schedule number
2. a month mask indicating which months the schedule may be active
3. a day mask indicating which days of the week the schedule may be valid
4. a date mask indicating which dates of the month the schedule may be active
5. a link to a day plan record

To have a link to a day plan, the day plan is also required to be supported, which in turn requires that its container class and the day plan table are also required to be supported. The day plan table is characterized by:

1. the maximum number of day plans that may be stored, which must be between one and 255
2. the maximum number of events that may occur during a day, which must be between one and 255
3. an indication of the day plan that is currently active

The day plan itself only consists of the day plan number and a link to between one and 255 day plan events. Each day plan event is described by:

1. a number;
2. the hour during which the event occurs;
3. the minute during which the event occurs;

4. the status of the action; and
5. a link to the specific action to be performed

The specific action to be performed is defined elsewhere because of the device-specific nature of actions.

The mapping of each attribute in this class to object types are defined in Table 4.

Table 4: Time Information Mapping to Class Diagram

Property	Object Type
CurrentTime.utcTime	globalTime
CurrentTime.daylightSavingScheme	globalDaylightSaving
CurrentTime.localTimeDifferential	globalLocalTimeDifferential
CurrentTime.standardTimeZone	controllerStandardTimeZone
CurrentTime.localTime	controllerLocalTime
TimeBaseScheduleTable.maxEntries	maxTimeBaseScheduleEntries
TimeBaseScheduleTable.status	timeBaseScheduleTableStatus
TimeBaseSchedule.number	timeBaseScheduleNumber
TimeBaseSchedule.monthMask	timeBaseScheduleMonth
TimeBaseSchedule.dayMask	timeBaseScheduleDay
TimeBaseSchedule.dateMask	timeBaseScheduleDate
TimeBaseSchedule.dayPlan	timeBaseScheduleDayPlan
DayPlanTable.maxDayPlans	maxDayPlans
DayPlanTable.maxDayPlanEvents	maxDayPlanEvents
DayPlanTable.activeDayPlan	dayPlanStatus
DayPlan.number	dayPlanNumber
DayPlanEvent.number	dayPlanEventNumber
DayPlanEvent.hour	dayPlanHour
DayPlanEvent.minute	dayPlanMinute
DayPlanEvent.action	dayPlanActionNumberOID

A.2.6 PMPP Information

Figure 24 depicts the database management version 2 data stored by a controller.

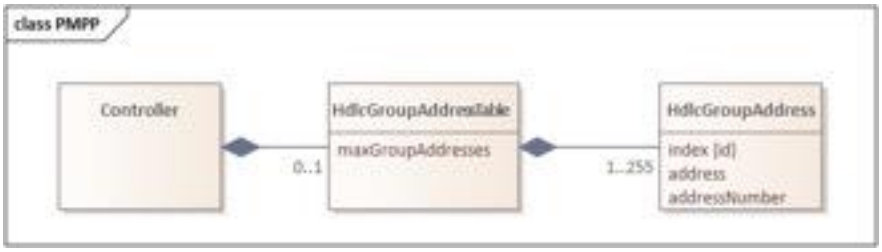

Figure 24: Class Diagram of the PMPP Data

A controller can support the HDLC Group Address Table with a defined number of group addresses and an entry in the table for each stored address. The mapping of each attribute in this class to object types are defined in Table 5.

Table 5: PMPP Mapping to Class Diagram

Property	Object Type
HdlcGroupAddressTable.maxGroupAddresses	maxGroupAddresses
HdlcGroupAddress.index	hdlcGroupAddressIndex
HdlcGroupAddress.address	hdlcGroupAddress
HdlcGroupAddress.addressNumber	hdlcGroupAddressNumber

A.2.7 Auxiliary Input/Output Information

Figure 25 and Figure 26 depict the auxiliary input/output data stored by a controller. Two diagrams are shown, one depicting the methods and object definitions originally defined in NTCIP 1203 v01 and the methods and objects defined in NTCIP 1201 v02.

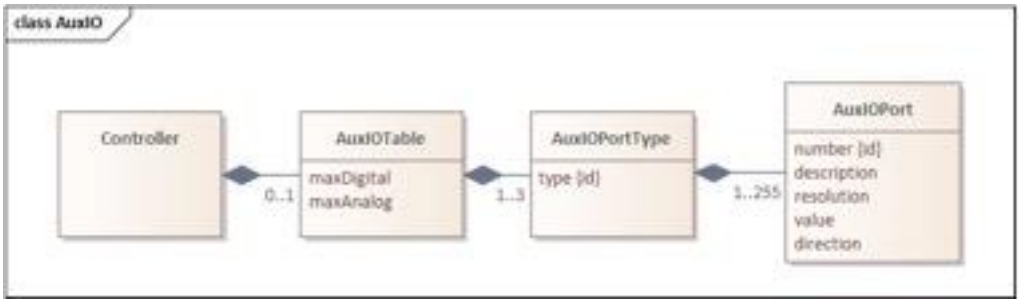

Figure 25: Class Diagram for Auxiliary Input/Output (NTCIP 1203 v01)

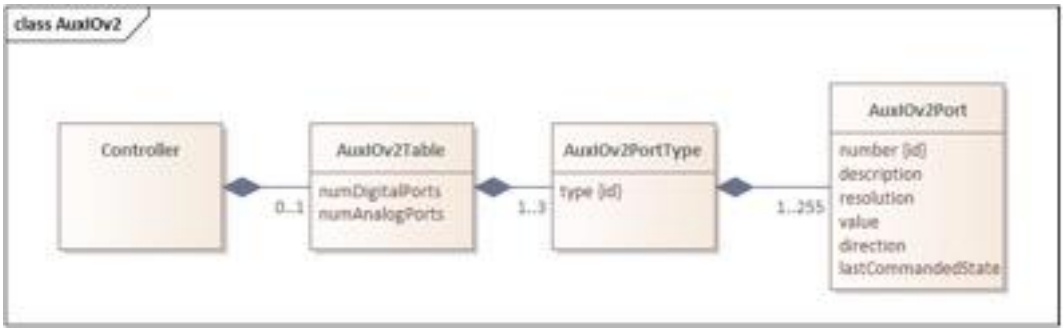

Figure 26: Class Diagram for Auxiliary Input/Output Version 2 (NTCIP 1201 v02)

Figure 32 and Figure 33 indicate a controller may support an auxiliary input/output table (AuxIO2 and/or AuxIO). If either is supported, it is characterized by the maximum number of digital and analog ports supported by the device. Each port type is allocated to its own sub-table in the AuxIOPortType table, which contains multiple entries, one for each port, where each port is characterized by:

1. a number
2. a description
3. a resolution of the data supported by the port
4. a value
5. a direction
6. the last commanded state (only in NTCIP 1201 v02)

The mapping of each attribute in this class to object types are defined in Table 6.

Table 6: Auxiliary Input and Output Mapping to Class Diagram

Property	Object Type
AuxIOTable.maxDigitalPorts	maxAuxIODigital
AuxIOTable.maxAnalogPorts	maxAuxIOAnalog
AuxIOPortType.type	auxIOPortType
AuxIOPort.number	auxIOPortNumber
AuxIOPort.description	auxIODescription
AuxIOPort.resolution	auxIOResolution
AuxIOPort.value	auxIOValue
AuxIOPort.direction	auxIOPortDirection
AuxIOV2Table.maxDigitalPorts	maxAuxIOv2TableNumDigitalPorts
AuxIOV2Table.maxAnalogPorts	maxAuxIOv2TableNumAnalogPorts
AuxIOV2PortType.type	auxIOv2PortType
AuxIOV2Port.number	auxIOv2PortNumber
AuxIOV2Port.description	auxIOv2PortDescription
AuxIOV2Port.resolution	auxIOv2PortResolution
AuxIOV2Port.value	auxIOv2PortValue
AuxIOV2Port.direction	auxIOv2PortDirection
AuxIOV2Port.lastCommandedState	auxIOv2PortLastCommandedState

A.2.8 SNMP Information

Figure 27 depicts the NTCIP-defined SNMP data stored by a controller.

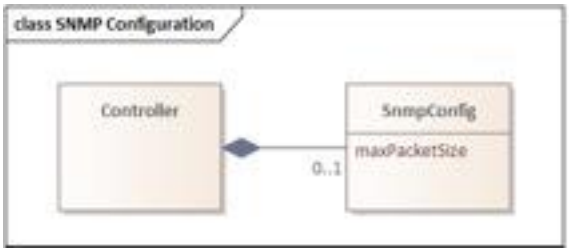

Figure 27: Class Diagram of the NTCIP-Defined SNMP Data

A controller can indicate the maximum SNMP packet size. The mapping of each attribute in this class to object types are defined in Table 7.

Table 7: NTCIP-Defined SNMP Data Mapping to Class Diagram

Property	Object Type
SnmpConfig.maxPacketSize	snmpMaxPacketSize

A.2.9 SFMP Information

Figure 28 depicts the SFMP data stored by a controller.

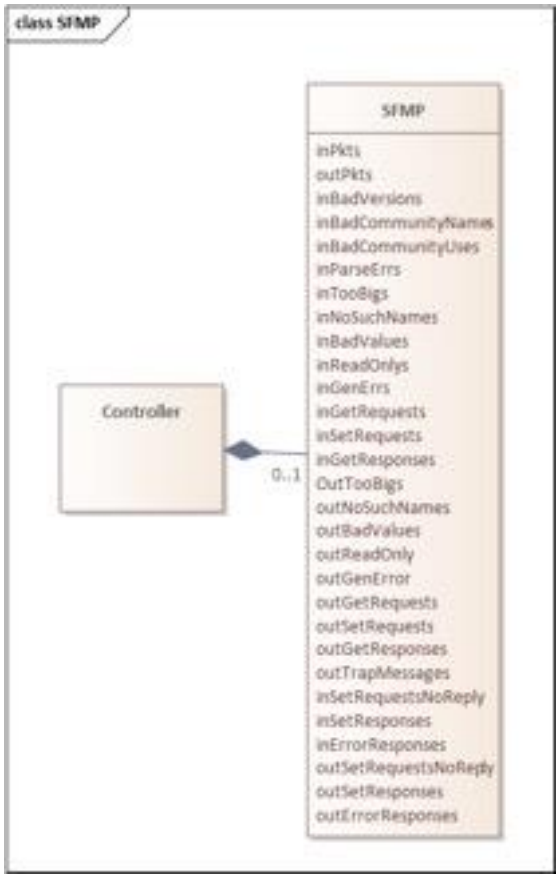

Figure 28: Class Diagram of the SFMP Data

A controller can indicate various statistics for SFMP. The mapping of each attribute in this class to object types are defined in Table 8.

Table 8: SFMP Data Mapping to Class Diagram

Property	Object Type
SFMP.inPkts	sfmpInPkts
SFMP.outPkts	sfmpOutPkts
SFMP.inBadVersions	sfmpInBadVersions
SFMP.inBadCommunityNames	sfmpInBadCommunityNames
SFMP.inBadCommunityUses	sfmpInBadCommunityUses
SFMP.inParsErrs	sfmpInParsErrs
SFMP.inTooBigs	sfmpInTooBigs
SFMP.inNoSuchNames	sfmpInNoSuchNames
SFMP.inBadValues	sfmpInBadValues
SFMP.inReadOnlys	sfmpInReadOnlys
SFMP.inGenErrs	sfmpInGenErrs
SFMP.inGetRequests	sfmpInGetRequests
SFMP.inSetRequests	sfmpInSetRequests
SFMP.inGetResponses	sfmpInGetResponses
SFMP.outTooBigs	sfmpOutTooBigs

SFMP.outNoSuchNames	sfmpOutNoSuchNames
SFMP.outBadValues	sfmpOutBadValues
SFMP.outReadOnlys	sfmpOutReadOnlys
SFMP.outGenErrs	sfmpOutGenErrs
SFMP.outGetRequests	sfmpOutGetRequests
SFMP.outSetRequests	sfmpOutSetRequests
SFMP.outGetResponses	sfmpOutGetResponses
SFMP.outTrapMessages	sfmpOutTrapMessages
SFMP.inSetRequestsNoReply	sfmpInSetRequestsNoReply
SFMP.inSetResponses	sfmpInSetResponses
SFMP.inErrorResponses	sfmpInErrorResponses
SFMP.outSetRequestsNoReply	sfmpOutSetRequestsNoReply
SFMP.outSetResponses	sfmpOutSetResponses
SFMP.outErrorResponses	sfmpOutErrorResponses

A.2.10 Dynamic Object Management Information

Figure 29 depicts the data stored by a controller to manage dynamic objects.

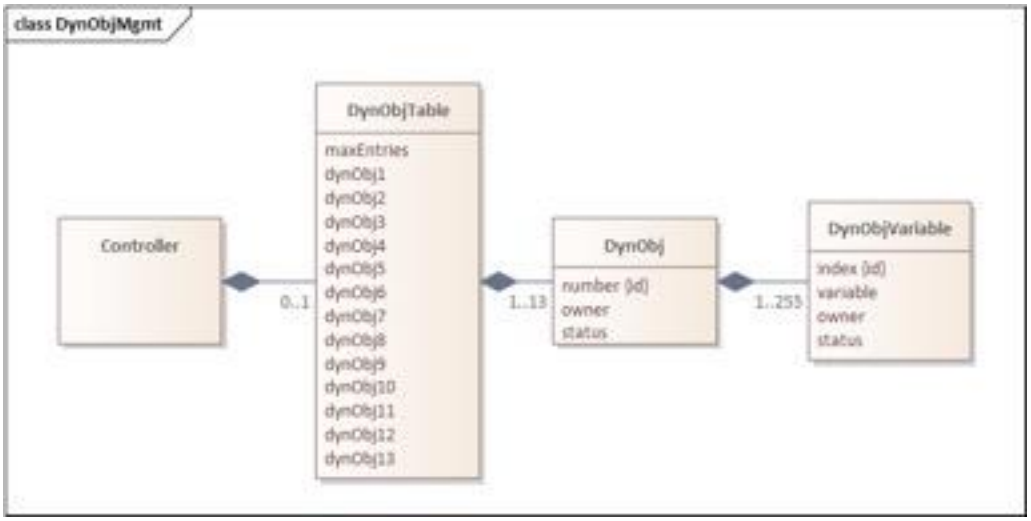

Figure 29: Class Diagram for Dynamic Object Management

A controller can support the definition of dynamic objects along with a series of objects to manage the current value of each dynamic object, the latter feature was deprecated in NTCIP 1201 v02. The mapping of each attribute in this class to object types are defined in Table 9.

Table 9: Dynamic Object Management Mapping to Class Diagram

Property	Object Type
DynObjTable.maxEntries	dynObjDefTableMaxEntries
DynObjTable.dynObj1	dynObj1
DynObjTable.dynObj2	dynObj2
DynObjTable.dynObj3	dynObj3
DynObjTable.dynObj4	dynObj4

DynObjTable.dynObj5	dynObj5
DynObjTable.dynObj6	dynObj6
DynObjTable.dynObj7	dynObj7
DynObjTable.dynObj8	dynObj8
DynObjTable.dynObj9	dynObj9
DynObjTable.dynObj10	dynObj10
DynObjTable.dynObj11	dynObj11
DynObjTable.dynObj12	dynObj12
DynObjTable.dynObj13	dynObj13
DynObj.number	dynObjNumber
DynObj.owner	dynObjConfigOwner
DynObj.status	dynObjConfigStatus
DynObjVariable.index	dynObjIndex
DynObjVariable.variable	dynObjVariable
DynObjVariable.owner	dynObjOwner
DynObjVariable.status	dynObjStatus

A.2.11 STMP Information

Figure 30 depicts the STMP data stored by a controller.

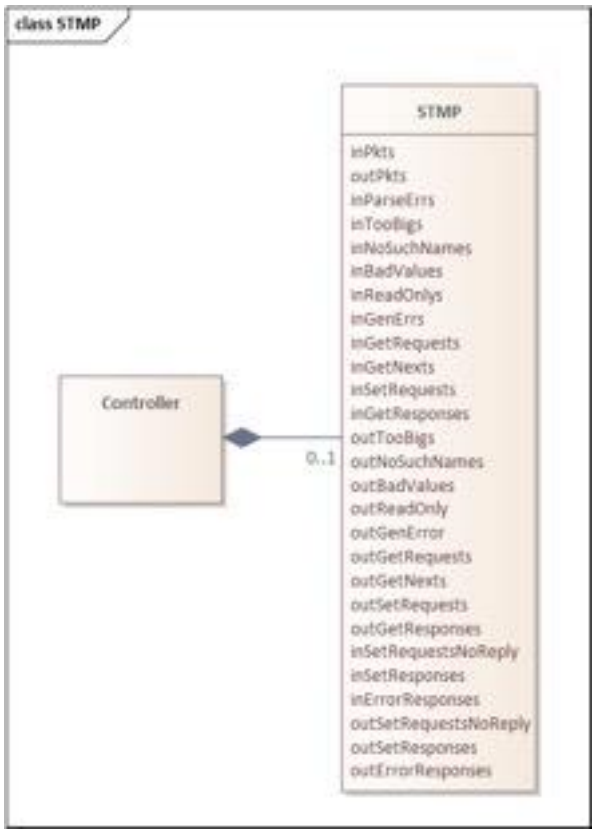

Figure 30: Class Diagram of STMP Data

A controller can support various STMP statistics. The mapping of each attribute in this class to object types are defined in Table 10.

Table 10: STMP Data Mapping to Class Diagram

Property	Object Type
STMP.inPkts	stmpInPkts
STMP.outPkts	stmpOutPkts
STMP.inParsErrs	stmpInParsErrs
STMP.inTooBigs	stmpInTooBigs
STMP.inNoSuchNames	stmpInNoSuchNames
STMP.inBadValues	stmpInBadValues
STMP.inReadOnlys	stmpInReadOnlys
STMP.inGenErrs	stmpInGenErrs
STMP.inGetRequests	stmpInGetRequests
STMP.inGetNexts	stmpInGetNexts
STMP.inSetRequests	stmpInSetRequests
STMP.inGetResponses	stmpInGetResponses
STMP.outTooBigs	stmpOutTooBigs
STMP.outNoSuchNames	stmpOutNoSuchNames
STMP.outBadValues	stmpOutBadValues
STMP.outReadOnlys	stmpOutReadOnlys
STMP.outGenErrs	stmpOutGenErrs
STMP.outGetRequests	stmpOutGetRequests
STMP.outGetNexts	stmpOutGetNexts
STMP.outSetRequests	stmpOutSetRequests
STMP.outGetResponses	stmpOutGetResponses
STMP.inSetRequestsNoReply	stmpInSetRequestsNoReply
STMP.inSetResponses	stmpInSetResponses
STMP.inErrorResponses	stmpInErrorResponses
STMP.outSetRequestsNoReply	stmpOutSetRequestsNoReply
STMP.outSetResponses	stmpOutSetResponses
STMP.outErrorResponses	stmpOutErrorResponses

A.2.12 Profiles STMP

Figure 31 depicts the STMP profile data stored by a controller.

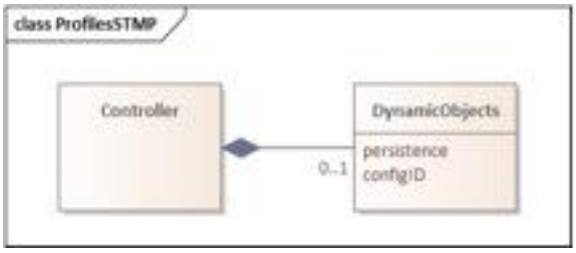

Figure 31: Class Diagram of the STMP Profile Data

A controller can indicate the persistence and configuration identifier for dynamic objects. The mapping of each attribute in this class to object types are defined in Table 11.

Table 11: STMP Profile Data Mapping to Class Diagram

Property	Object Type
DynamicObjects.persistence	dynamicObjectPersistence
DynamicObjects.configID	dynamicObjectTableConfigID

A.2.13 Logical Names Information

Figure 32 depicts the logical names data stored by a controller.

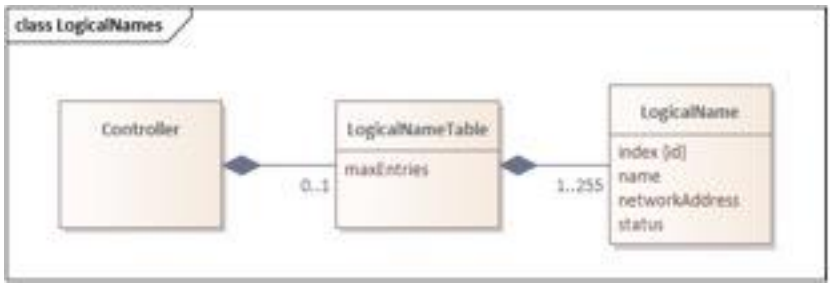

Figure 32: Class Diagram of the Logical Names Data

A controller can support a logical names table. The mapping of each attribute in this class to object types are defined in Table 12.

Table 12: Logical Names Data Mapping to Class Diagram

Property	Object Type
LogicalNameTable.maxEntries	logicalNameTranslationTableMaxEntries
LogicalName.index	logicalNameTranslationIndex
LogicalName.name	logicalNameTranslationLogicalName
LogicalName.networkAddress	logicalNameTranslationNetworkAddress
LogicalName.status	logicalNameTranslationStatus

A.2.14 Event Report Information

Figure 33 depicts the event report data stored by a controller.

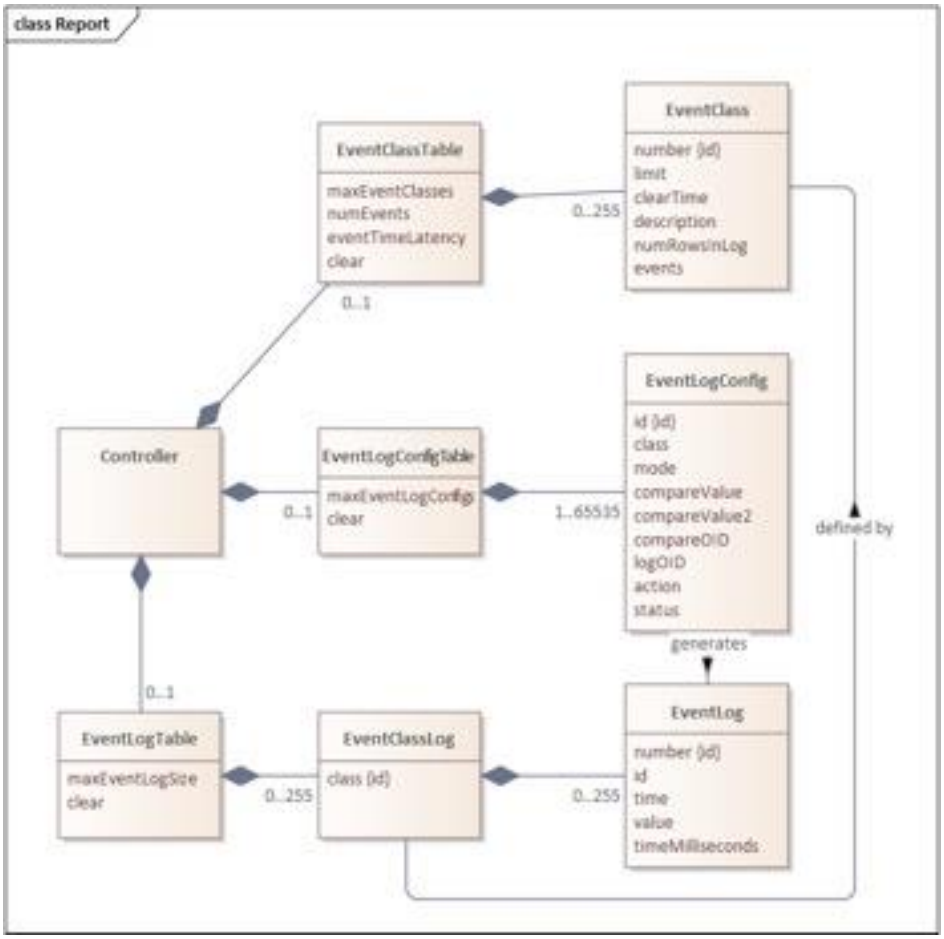

Figure 33: Class Diagram of the Event Report Data

A controller can configure multiple event types and class types so that information about events can be stored in a log, organized by the defined classes. The mapping of each attribute in this class to object types are defined in Table 13.

Table 13: Event Report Data Mapping to Class Diagram

Property	Object Type
EventClassTable.maxEventClasses	maxEventClasses
EventClassTable.numEvents	numEvents
EventClassTable.eventTimeLatency	eventTimeLatency
EventClassTable.clear	eventClearClasses
EventClass.number	eventClassNumber
EventClass.limit	eventClassLimit
EventClass.clearTime	eventClassClearTime
EventClass.description	eventClassDescription
EventClass.numRowsInLog	eventClassNumRowsInLog
EventClass.events	eventClassNumEvents
EventLogConfigTable.maxEventLogConfigs	maxEventLogConfigs
EventLogConfigTable.clear	eventClearConfiguration

EventLogConfig.id	eventConfigID
EventLogConfig.class	eventConfigClass
EventLogConfig.mode	eventConfigMode
EventLogConfig.compareValue	eventConfigCompareValue
EventLogConfig.compareValue2	eventConfigCompareValue2
EventLogConfig.compareOID	eventConfigCompareOID
EventLogConfig.logOID	eventConfigLogOID
EventLogConfig.action	eventConfigAction
EventLogConfig.status	eventConfigStatus
EventLogTable.maxEventLogSize	maxEventLogSize
EventLogTable.clear	eventClearLog
EventClassLog.class	eventLogClass
EventLog.number	eventLogNumber
EventLog.id	eventLogID
EventLog.time	eventLogTime
EventLog.value	eventLogValue
EventLog.timeMilliseconds	eventLogTimeMilliseconds

A.2.15 Community Name Security Information

Figure 34 depicts the community name management data stored by a controller.

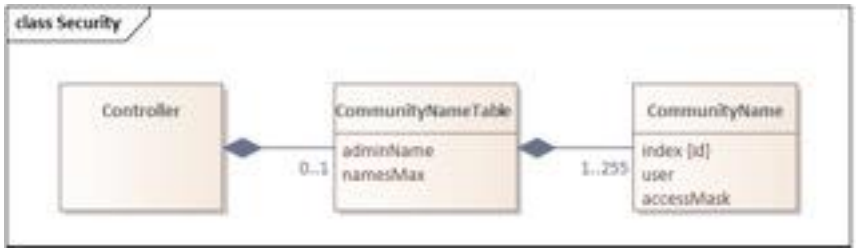

Figure 34: Class Diagram of the Community Name Security Data

A controller can support objects to manage the community names configured for the controller. The mapping of each attribute in this class diagram to object types are defined in Table 14.

Table 14: Community Name Security Data Mapping to Class Diagram

Property	Object Type
CommunityNameTable.adminName	communityNameAdmin
CommunityNameTable.namesMax	communityNamesMax
CommunityName.index	communityNameIndex
CommunityName.user	communityNameUser
CommunityName.accessMask	communityNameAccessMask

A.2.16 Trap Management Information

Figure 35 depicts the trap management data stored by a controller.

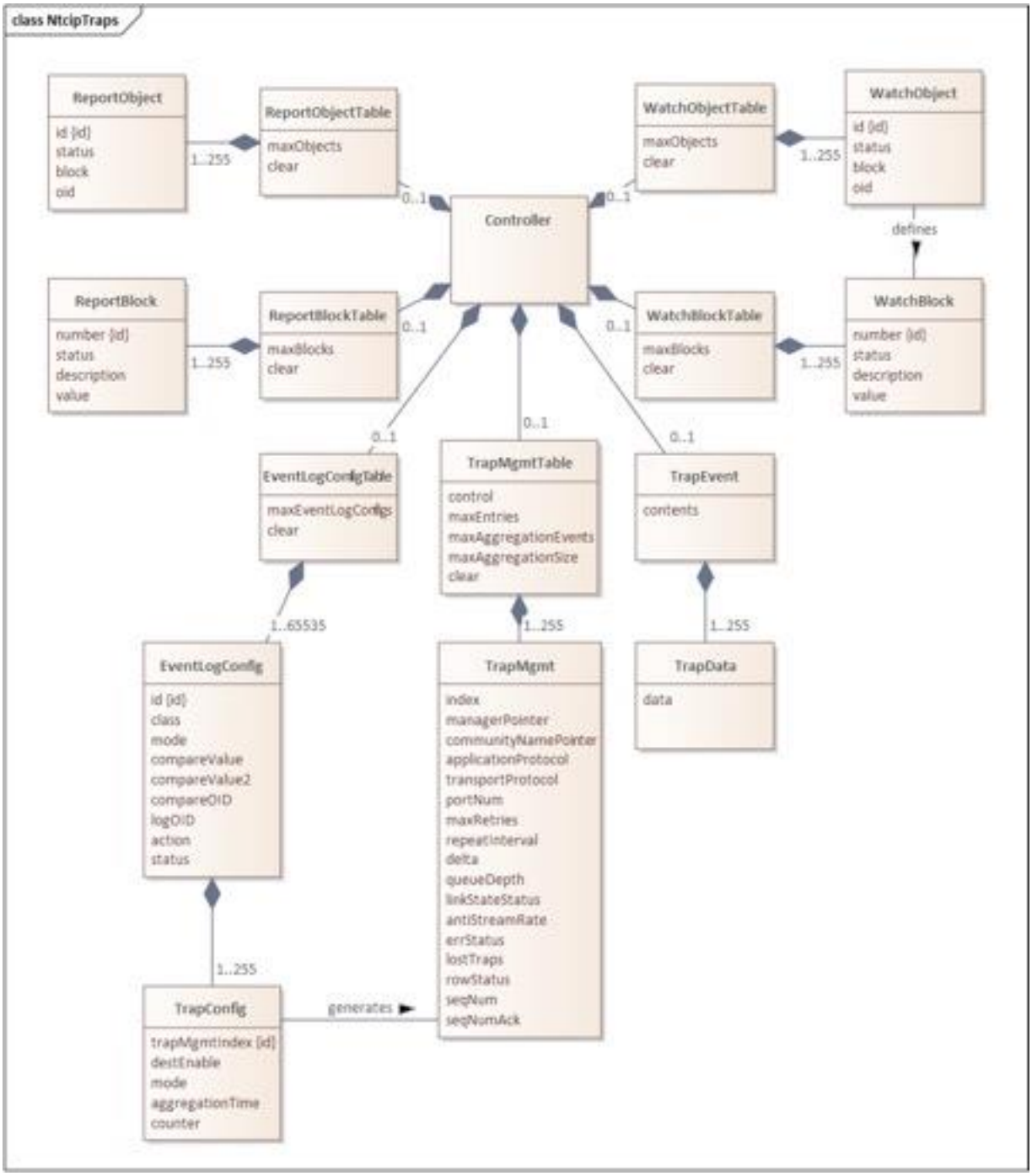

Figure 35: Class Diagram of the Trap Management Data

A controller can configure trap events, the data to send, and the parameters used to send the traps. This can include monitoring complex watch objects and sending complex report objects. The mapping of each attribute in this class to object types are defined in Table 15.

Table 15: Trap Management Data Mapping to Class Diagram

Property	Object Type
WatchObjectTable.maxObjects	maxWatchObjects

Property	Object Type
WatchObjectTable.clear	clearWatchObjects
WatchObject.id	watchID
WatchObject.status	watchStatus
WatchObject.block	watchBlock
WatchObject.oid	watchOID
WatchBlockTable.maxBlocks	maxWatchBlocks
WatchBlockTable.clear	clearWatchBlockTable
WatchBlock.number	watchBlockNumber
WatchBlock.status	watchBlockStatus
WatchBlock.description	watchBlockDescription
WatchBlock.value	watchBlockValue
ReportObjectTable.maxObjects	maxReportObjects
ReportObjectTable.clear	clearReportObjects
ReportObject.id	reportID
ReportObject.status	reportStatus
ReportObject.block	reportBlock
ReportObject.oid	reportOID
ReportBlockTable.maxBlocks	maxReportBlocks
ReportBlockTable.clear	clearReportBlockTable
ReportBlock.number	reportBlockNumber
ReportBlock.status	reportBlockStatus
ReportBlock.description	reportBlockDescription
ReportBlock.value	reportBlockValue
EventLogConfigTable.maxEventLogConfigs	maxEventLogConfigs
EventLogConfigTable.clear	eventClearConfiguration
EventLogConfig.id	eventConfigID
EventLogConfig.class	eventConfigClass
EventLogConfig.mode	eventConfigMode
EventLogConfig.compareValue	eventConfigCompareValue
EventLogConfig.compareValue2	eventConfigCompareValue2
EventLogConfig.compareOID	eventConfigCompareOID
EventLogConfig.logOID	eventConfigLogOID
EventLogConfig.action	eventConfigAction
EventLogConfig.status	eventConfigStatus
TrapConfig.trapMgmtIndex	trapMgmtManagerIndex
TrapConfig.destEnable	trapDestEnable
TrapConfig.mode	trapMode
TrapConfig.aggregationTime	trapAggregationTime
TrapConfig.counter	trapCounter
TrapMgmtTable.control	trapControl
TrapMgmtTable.maxEntries	trapMgmtMaxEntries
TrapMgmtTable.maxAggregationEvents	trapMaxAggregationEvents
TrapMgmtTable.maxAggregationSize	trapMaxAggregationSize

Property	Object Type
TrapMgmtTable.clear	clearTrapMgmtTable
TrapMgmt.index	trapMgmtManagerIndex
TrapMgmt.managerPointer	trapMgmtManagerPointer
TrapMgmt.communityNamePointer	trapMgmtCommunityNamePointer
TrapMgmt.applicationProtocol	trapMgmtApplicationProtocol
TrapMgmt.transportProtocol	trapMgmtTransportProtocol
TrapMgmt.portNum	trapMgmtPortNum
TrapMgmt.maxRetries	trapMgmtMaxRetries
TrapMgmt.repeatInterval	trapMgmtRepeatInterval
TrapMgmt.delta	trapMgmtDelta
TrapMgmt.queueDepth	trapMgmtQueueDepth
TrapMgmt.linkStateStatus	trapMgmtLinkStateStatus
TrapMgmt.antiStreamRate	trapMgmtAntiStreamRate
TrapMgmt.errStatus	trapMgmtErrStatus
TrapMgmt.lostTraps	trapMgmtLostTraps
TrapMgmt.rowStatus	trapMgmtRowStatus
TrapMgmt.seqNum	trapMgmtSeqNum
TrapMgmt.seqNumAck	trapMgmtSeqNumAck
TrapEvent.contents	trapEvent
TrapData.data	trapData

A.2.17 Recording Mechanism (Version 1) Information

Figure 36 depicts the data stored by a controller for the recording mechanism version 1 feature as used prior to NTCIP 1201 v04.

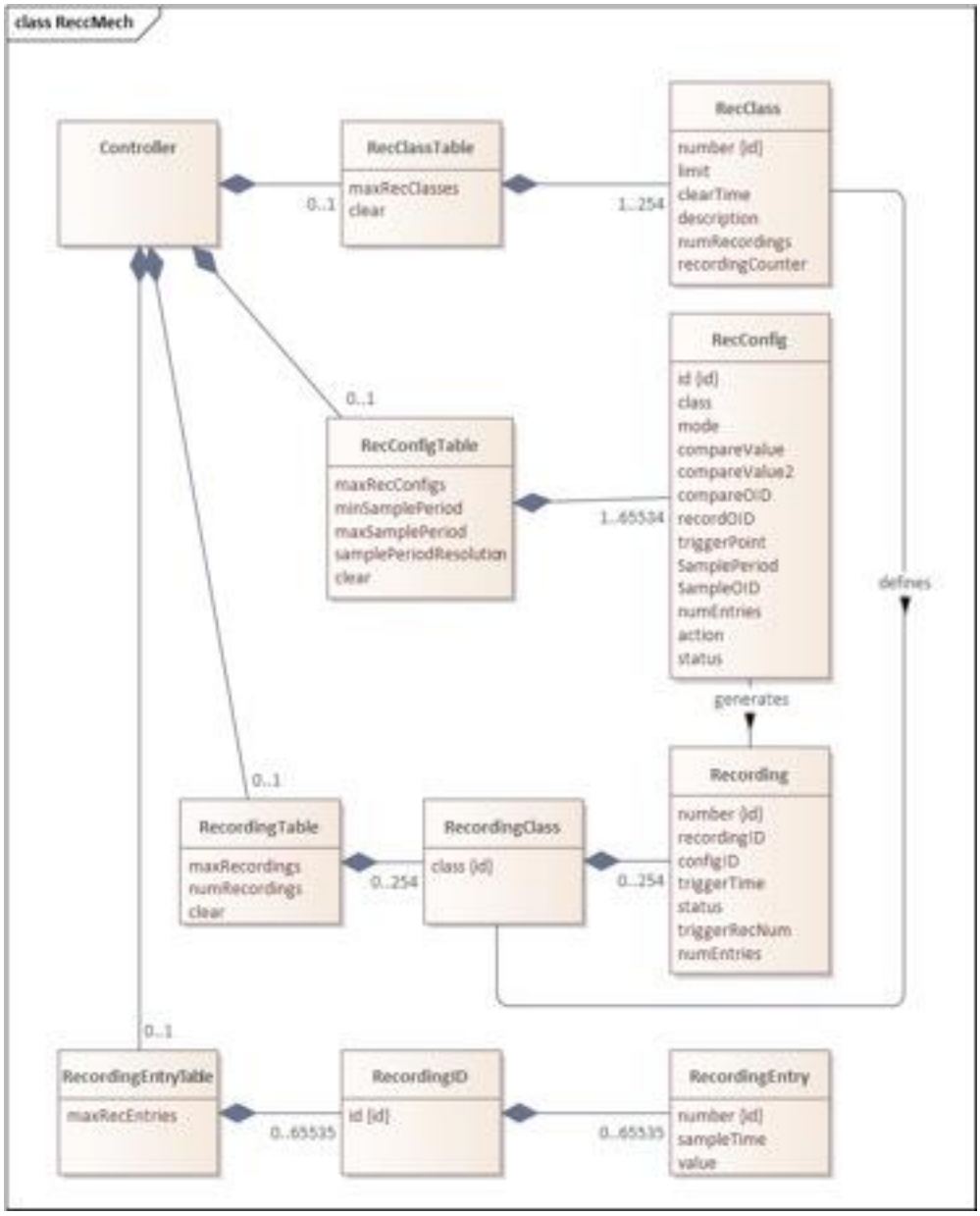

Figure 36: Class Diagram of the Recording Mechanism (Version 1) Data

indicates a controller can include data to manage the recording mechanism (version 1). The mapping of each attribute in this class to object types are defined in Table 16.

Table 16: Recording Mechanism (Version 1) Data Mapping to Class Diagram

Property	Object Type
RecClassTable.maxRecClasses	maxRecClasses
RecClassTable.clear	recClearClasses
RecClass.number	recClassNumber
RecClass.limit	recClassLimit
RecClass.clearTime	recClassClearTime
RecClass.description	recClassDescription

RecClass.numRecordings	recClassNumRecordings
RecClass.recordingCounter	recClassRecordingCounter
RecConfigTable.maxRecConfigs	maxRecConfigs
RecConfigTable.minSamplePeriod	recMinSamplePeriod
RecConfigTable.maxSamplePeriod	recMaxSamplePeriod
RecConfigTable.samplePeriodResolution	recSamplePeriodResolution
RecConfigTable.clear	recClearConfigurations
RecConfig.id	recConfigID
RecConfig.class	recConfigClass
RecConfig.mode	recConfigMode
RecConfig.compareValue	recConfigCompareValue
RecConfig.compareValue2	recConfigCompareValue2
RecConfig.compareOID	recConfigCompareOID
RecConfig.recordOID	recConfigRecordOID
RecConfig.triggerPoint	recConfigTriggerPoint
RecConfig.samplePeriod	recConfigSamplePeriod
RecConfig.sampleOID	recConfigSampleOID
RecConfig.numEntries	recConfigNumEntries
RecConfig.action	recConfigAction
RecConfig.status	recConfigStatus
RecordingTable.maxRecordings	maxRecordings
RecordingTable.numRecordings	numRecordings
RecordingTable.clear	recClearRecordingData
RecordingClass.class	recordingClass
Recording.number	recordingNumber
Recording.recordingID	recordingID
Recording.configID	recordingConfigID
Recording.triggerTime	recordingTriggerTime
Recording.status	recordingStatus
Recording.triggerRecNum	recordingTriggerRecNum
Recording.numEntries	recordingNumEntries
RecordingEntryTable.maxRecEntries	maxRecEntries
RecordingID.id	recordingID
RecordingEntry.number	recEntryNumber
RecordingEntry.sampleTime	recSampleTime
RecordingEntry.value	recValue

Annex B SUMMARY OF CHANGES [INFORMATIVE]

To the extent reasonable, the NTCIP community attempts to minimize the number of changes to an NTCIP standard to minimize interoperability issues among different versions of a single NTCIP standard. However, on occasion, issues are identified with existing NTCIP standards that necessitate a change. When rectifying such issues, NTCIP standards attempt to minimize the impact on existing implementations. Annex B:

1. identifies each issue that has resulted in a significant revision from the previous major version of this document,
2. provides a description of the revision made, and
3. includes a brief analysis of the impact of each revision on existing implementations.

B.1 INCLUSION OF MIBS FROM NTCIP 1103 V03

As a part of the migration to a more secure NTCIP, NTCIP 1103 v03 was deprecated and the MIBs formally contained in NTCIP 1103 were migrated to NTCIP 1201v04 per the recommendations of NTCIP 9014.

This specific change was a document management issue and does not affect implementations.

B.2 UPGRADE TO SMIV2 AND DEPRECATE NTCIP 1103 V03 AND NTCIP 1201 V03 OBJECTS

The primary purpose of the NTCIP 1201 v04 update was to improve the security of NTCIP per the recommendations of NTCIP 9014. The decision to migrate to SNMPv3 required the conversion of NTCIP MIBs to SMIv2 format. The conversion to SNMPv3 also prevents any dialog from being backwards compatible with prior versions of NTCIP. As such, the NTCIP community determined that this would be an appropriate time to correct minor flaws that had been discovered over the decades of successful NTCIP deployments.

To conform to SMIv2 format, some objects had to be deprecated and replaced. For example, SMIv2 imposes stricter requirements on not allowing Counter objects to be writable, but several NTCIP objects were defined as writable Counters.

Further, some objects and tables had to be deprecated to address known security issues. For example, the event log did not adequately check security credentials when monitoring data to create events or to record information in the log. To correct this issue, multiple tables had to be deprecated and replaced.

Finally, during the analysis other potential areas of improvement were identified and the NTCIP community concluded it was better to address the issues during a major update rather than waiting for a later date.

The result of the analysis was nearly all NTCIP 1103 v03 and NTCIP 1201 v03 objects were recommended for deprecation due to some technical issue. Further, equivalents for most of these objects had already been developed within either Internet RFCs or ISO standards. As a result, the NTCIP community decided to:

1. reference Internet RFCs and ISO standards for objects that are applicable to all device types (eliminating the need to reference NTCIP 1201 for future designs);
2. work with ISO/TC 204 to ensure that features missing from the Internet RFCs would be included within ISO 26048-1, which becomes the primary replacement of NTCIP 1201 functionality for future design; and
3. upgrade the MIBs previously defined in NTCIP 1103 v03 and NTCIP 1201 v03 to SMIv2 to provide an unambiguous definition of how to exchange previously defined data using SNMPv3, as might be required for communications with a proxy agent that serves as a front-end to a SNMPv1 device.

While there were a few, relatively simple, existing objects that could have been reused in the current recommended design, supporting these objects in both the NTCIP 1201 and ISO 26048-1 MIBs would require the definition of a third MIB imported by both of the previous two. The NTCIP community decided it would be less confusing to deprecate the previously defined object-types and rely on the new standards to fully define their own operation.

The net impact of these changes is that the specific data objects defined for future implementations (i.e., as defined in ISO 26048-1) are not directly backwards compatible with prior NTCIP 1201 objects. However, the migration to SNMPv3 would have prevented this interoperability anyway. Many of the objects deprecated in this document have similar parallel objects defined in ISO 26048-1 (as specified in their "superseded by" clause) allowing implementations to support easier conversions.

NOTE — In some cases, objects previously defined are no longer needed due to the migration to SNMPv3 and the practical data capacity requirements for exchanging secure messages. For example, support for SFMP, STMP, and PMPP are being withdrawn while the trap management feature is being significantly revised to align with design elements included natively within SNMPv3. Thus, not all previous objects have replacements.

B.3 SUMMARY

The result of the changes identified above was to upgrade all NTCIP 1103 v03 and NTCIP 1201 v03 MIBs to SMIv2 and to mark all of their objects as deprecated. Replacement objects for future design are contained in ISO 26048-1. Each object definition contained in this document provides a recommendation for what object(s) should supersede/supplant the object or why no superseding/supplanting object is identified.

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