# SCTE · ISBE

# STANDARDS

**Network Operations Subcommittee**

**AMERICAN NATIONAL STANDARD**

**ANSI/SCTE 163 2018**

**SCTE HMS Switched Digital Video MIB**

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**SCOPE**
<span style="color:red">This document is identical to SCTE 163 2009 except for informative components which may have been updated such as the title page, NOTICE text, headers and footers. No normative changes have been made to this document.</span>

This document provides the definition for MIB objects within the SCTE HMS SDV MIB Tree.

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**NORMATIVE REFERENCE**
IETF RFC 2578 SNMPv2-SMI
IETF RFC 2579 SNMPv2-TC
IETF RFC 2580 SNMPv2-CONF
IETF RFC 4001 INET-ADDRESS-MIB

**INFORMATIVE REFERENCE**
SCTE 36 2002R2007 SCTE-ROOT Management Information Base (MIB) Definitions
SCTE 37 2008 Hybrid Fiber/Coax Outside Plant Status Monitoring SCTE-HMS-ROOTS Management Information Base (MIB) Definition

**TERMS AND DEFINITIONS**
This document defines the following terms:

| Terms | Definitions |
|-------|-------------|
| AAC | Advanced Audio Coding |
| AC3 | Dolby Digital |
| AVC | Advanced Video Coding |
| bps | Bits per second |
| CA | Conditional Access |
| CBR | Constant Bit Rate |
| CCP | Channel Change Protocol |
| CDMA | Code Division Multiple Access |
| DNCS | Digital Network Control System |
| DOCSIS | Data Over Cable Service Interface Specification |
| DVB | Digital Video Broadcast |
| DVR | Digital Video Recorder |
| ERM | Edge Resource Manager |
| GB | Gigabyte |
| GSM | Global System for Mobile Communications |

| | |
|---|---|
| HD | High Definition |
| HMS | HFC Management Subcommittee |
| H.264 | MPEG-4 Part 10 or AVC |
| IB | In-Band |
| IP | Internet Protocol |
| MAC | Media Access Control |
| MediaCipher | Conditional Access System Technology by Motorola |
| MIB | Management Information Base – the specification of information in a manner that allows standard access through a network management protocol. |
| MOCA | Multimedia Over Coax Alliance |
| MP3 | Audio layer-3 |
| MPEG | Moving Picture Experts Group |
| NDS | Offers a Conditional Access System for Set-top Boxes |
| ODRM | On-Demand Resource Manager |
| ODRMR | On-Demand Resource Managers Redirector |
| OOB | Out-of-Band |
| PowerKey | Conditional Access System Technology by Scientific Atlanta which employs both private and public key methods |
| QAM | Quadrature Amplitude Modulation |
| SCTE | Society of Cable Telecommunications Engineers |
| SD | Standard Definition |
| SDB | Switched Digital Broadcasting |
| SDV | Switched Digital Video |
| SDVSM | SDV Session Manager |
| Simulcrypt | DVB Standard for Conditional Access Systems |
| SMPTE | Society of Motion Picture and Television Engineers |
| SRM | Session Resource Manager |
| STB | Settop Box |
| TCP | Transmission Control Protocol |
| TSID | Transport Stream Identifier |
| UDP | User Datagram Protocol |
| VBR | Variable Bit Rate |
| VC-1 | The informal name of the video codec standard initially developed by Microsoft and released by SMPTE. |
| VOD | Video On Demand |
| WM9 | Windows Media 9 |

**REQUIREMENTS**

This section defines the mandatory syntax of the SCTE-HMS-SDV-MIB.
It follows the IETF Simple Network Management Protocol (SNMP) for defining managed objects.

The syntax is given below.

SCTE-HMS-SDV-MIB DEFINITIONS ::= BEGIN

IMPORTS
        NOTIFICATION-TYPE, OBJECT-IDENTITY, OBJECT-TYPE, MODULE-IDENTITY, enterprises, Unsigned32,
Integer32
                FROM SNMPv2-SMI
        NOTIFICATION-GROUP, OBJECT-GROUP, MODULE-COMPLIANCE
                FROM SNMPv2-CONF
        TruthValue, DateAndTime, DisplayString,
        MacAddress
                FROM SNMPv2-TC
        InetAddress, InetAddressType
                FROM INET-ADDRESS-MIB;

hmsScteSdvMib MODULE-IDENTITY
        LAST-UPDATED "200809241530Z"
        ORGANIZATION
                "SCTE HMS Working Group"
        CONTACT-INFO
                "SCTE HMS Subcommittee, Chairman
                mailto: standards@SCTE.org"
        DESCRIPTION
                "The SCTE HMS MIB module to configure and monitor a
                compliant Switched Digital Video server."

        REVISION "200809241530Z"
        DESCRIPTION
                "ver 0.9
                1. Changed objects with SYNTAX IpAddress to InetAddress.
                2. Added objects for InetAddressType as required.
                3. Changed enumerations starting with values of 0 to start with 1."

        REVISION "200805221030Z"
        DESCRIPTION
                "ver 0.8
                1. Removed extraneous comments and spacing.
                2. Changed INTEGER to Integer32 per SMIv2
                3. Moved SDV-MIB under heManagedServer under scteHmsTree
                4. Renumbered nodes to remove gaps.
                5. Changed sdvsmFreqPlanIndex and sdvsmAdZoneID from Integer32 to
                   Unsigned32 to prevent negative #'s
                6. Added sdvsmProgramGroup and sdvsmClientConfigGroup to the
                   compliance statement"

        REVISION "200704181730Z"
        DESCRIPTION
                "ver 0.2
                1. Removed extraneous comments which described OID explicitly
                   (i.e. 1.3.6.1.4.1.5591.1.11.100).
                2. Replaced SDB references w/ SDV.
                3. Removed any SA or GQAM references.
                4. Added unit and default clauses.
                5. Changed indices to not-accessible and reordered objects so index
                   is first in table.
                6. Added Compliance statement.

       7. Used OBJECT-IDENTIFIER instead of OBJECT-IDENTITY for node
         definitions that will not change.
       8. Removed node definitions which had only one table defined under
         it to avoid excessive layers.
       9. Renamed node from sdvServerClientConfigParams to
         sdvServerClientConfig.
      10. There are several objects with ACCESS read-create; however,
         comments indicate they are status only.
      11. What does Alarm 209 mean?
      12. Added alarm objects to eventTable instead of augmenting a
         separate table.
      13. Changed INT32 to UINT32 where descriptions indicated.
      14. Changed INT32 to UINT32 where range was 1-2147483647.
      15. Added/Removed objects from IMPORTS statement.
      16. Updated organization and contact info.
      17. Renamed sdvServerObjs as sdvServerMIBObjects.
      18. Renumbered objects where there were gaps in numbering.
      19. Changed SYNTAX from INTEGER to Integer32.
      20. Removed not-accessible indices from conformance groups."
::= { enterprises scteRoot(5591) scteHmsTree (1) insidePlantIdent (11) heDigital(5) heManagedServer(6) 1 }


--
-- Node definitions
--
--
-- All the objects of the SDV Server MIB.
--

sdvServerMIBObjects  OBJECT IDENTIFIER ::= { hmsScteSdvMib 1 }

sdvsmConfigObjects  OBJECT-IDENTITY
      STATUS    current
      DESCRIPTION
           "The node for the SDVSM (SDV Session Manager) configuration MIB
           objects."
      ::= { sdvServerMIBObjects 3 }

sdvsmOfferedPrograms  OBJECT-IDENTITY
      STATUS    current
      DESCRIPTION
           "This node describes the SDVSM offered programs."
      ::= { sdvsmConfigObjects 8 }

sdvsmSTBCapabilities  OBJECT-IDENTITY
      STATUS    current
      DESCRIPTION
           "This node describes the topology and capabilities of the STBs that
           have requested channel changes from the SDVSM."
      ::= { sdvServerMIBObjects 4 }


--
-- Status/Diagnostic of the SDV Server.
--

sdvsmDiagnostics    OBJECT IDENTIFIER ::= { sdvServerMIBObjects 8 }

```
--
-- Events associated with the SDV Server.
--

sdvServerEvents     OBJECT IDENTIFIER ::= { hmsScteSdvMib 2 }


--
-- Dummy node under which all events must be defined. This is required for
-- SNMP v1/v2 compatibility.
--

sdvServerEventsV2    OBJECT IDENTIFIER ::= { sdvServerEvents 0 }


--
-- Conformance.
--

sdvServerConformance  OBJECT IDENTIFIER ::= { hmsScteSdvMib 3 }


--
-- Compliance statements of the SDV Server MIB.
--

sdvServerCompliances  OBJECT IDENTIFIER ::= { sdvServerConformance 1 }


--
-- The different groups of objects of the SDV Server.
--

sdvServerGroups     OBJECT IDENTIFIER ::= { sdvServerConformance 2 }

sdvsmName  OBJECT-TYPE
        SYNTAX    OCTET STRING
        MAX-ACCESS read-write
        STATUS    current
        DESCRIPTION
                "The name of the SDVSM."
        ::= { sdvServerMIBObjects 1 }

sdvsmMacAddress  OBJECT-TYPE
        SYNTAX    MacAddress
        MAX-ACCESS read-write
        STATUS    current
        DESCRIPTION
                "The MAC address of the SDVSM."
        ::= { sdvServerMIBObjects 2 }

sdvsmMiniCarouselTable  OBJECT-TYPE
        SYNTAX SEQUENCE OF SdvsmMiniCarouselEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "Describes the mini-carousels transmitted by the SDVSM."
        ::= { sdvsmConfigObjects 1 }

sdvsmMiniCarouselEntry  OBJECT-TYPE
```

SYNTAX        SdvsmMiniCarouselEntry
MAX-ACCESS not-accessible
STATUS    current
DESCRIPTION
        "Each entry fully describes a mini-carousel of the SDVSM."
INDEX { sdvsmServiceGroupID }
::= { sdvsmMiniCarouselTable 1 }

SdvsmMiniCarouselEntry ::= SEQUENCE {
        sdvsmMiniCarouselPath
                INTEGER,
        sdvsmMiniCarouselBitRate
                Integer32,
        sdvsmMiniCarouselDestIpAddrType
                InetAddressType,
        sdvsmMiniCarouselDestIpAddr
                InetAddress,
        sdvsmMiniCarouselUdpPort
                Integer32,
        sdvsmMiniCarouselSize
                Integer32,
        sdvsmMiniCarouselTransmissionFrequency
                Integer32
}

sdvsmMiniCarouselPath  OBJECT-TYPE
        SYNTAX    INTEGER {
                oob (1),
                ib (2)
        }
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Indicates whether the mini-carousel is carried 1=out-of-band or
                2=in-band."
        ::= { sdvsmMiniCarouselEntry 1 }

sdvsmMiniCarouselBitRate  OBJECT-TYPE
        SYNTAX    Integer32
        UNITS   "bps"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The transmission rate of the mini-carousel."
        ::= { sdvsmMiniCarouselEntry 2 }

sdvsmMiniCarouselDestIpAddrType  OBJECT-TYPE
        SYNTAX    InetAddressType
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The type of IP stack (IPv4 or IPv6) of the destination."
        ::= { sdvsmMiniCarouselEntry 3 }

sdvsmMiniCarouselDestIpAddr  OBJECT-TYPE
        SYNTAX    InetAddress

MAX-ACCESS read-only
STATUS    current
DESCRIPTION
        "The IP address of the mini-carousel which can be unicast or
        multicast."
::= { sdvsmMiniCarouselEntry 4 }

sdvsmMiniCarouselUdpPort  OBJECT-TYPE
        SYNTAX    Integer32 (1..65535)
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The destination UDP port for the mini-carousel."
        ::= { sdvsmMiniCarouselEntry 5 }

sdvsmMiniCarouselSize  OBJECT-TYPE
        SYNTAX    Integer32
        UNITS   "bytes"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Size of the mini-carousel."
        ::= { sdvsmMiniCarouselEntry 6 }

sdvsmMiniCarouselTransmissionFrequency  OBJECT-TYPE
        SYNTAX    Integer32 (1..100)
        UNITS   "# mini-carousel/second"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The number of times the mini-carousel is transmitted per second."
        ::= { sdvsmMiniCarouselEntry 7 }

sdvsmClientTable  OBJECT-TYPE
        SYNTAX SEQUENCE OF SdvsmClientEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "This table specifies SDV Client configuration objects that are
                transmitted in the mini-carousel configuration file."
        ::= { sdvsmConfigObjects 2 }

sdvsmClientEntry  OBJECT-TYPE
        SYNTAX          SdvsmClientEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "Each entry specifies client configuration objects for SDV that
                belong to the same service group or TSID group."
        INDEX { sdvsmServiceGroupID }
        ::= { sdvsmClientTable 1 }

SdvsmClientEntry ::= SEQUENCE {
        sdvsmClientRexmitPgmSelectInterval
                Integer32,
        sdvsmClientLastUserActivityInterval

```
        Integer32,
    sdvsmClientMsgRespTimeout
        Integer32,
    sdvsmClientMsgReqMaxRetries
        Integer32,
    sdvsmClientMsgReqMinRetryInterval
        Integer32,
    sdvsmClientMsgReqMaxRetryInterval
        Integer32,
    sdvsmClientUserInteractionTimeout
        Integer32,
    sdvsmClientDefaultCaSystemId
        Integer32,
    sdvsmClientDefaultEncoding
        Integer32,
    sdvsmClientDefaultCapabilities
        Integer32,
    sdvsmClientTunerHealthTest
        Integer32,
    sdvsmClientMinimizeChannelReport
        Integer32
}

sdvsmClientRexmitPgmSelectInterval  OBJECT-TYPE
        SYNTAX    Integer32
        UNITS  "seconds"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "If non-zero, retransmit last SDV Program Select Request message
                within the specified number of seconds."
        ::= { sdvsmClientEntry 1 }

sdvsmClientLastUserActivityInterval  OBJECT-TYPE
        SYNTAX    Integer32
        UNITS  "seconds"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Reporting interval in seconds for the last user activity report."
        ::= { sdvsmClientEntry 2 }

sdvsmClientMsgRespTimeout  OBJECT-TYPE
        SYNTAX    Integer32
        UNITS  "milliseconds"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Response message timeout."
        ::= { sdvsmClientEntry 3 }

sdvsmClientMsgReqMaxRetries  OBJECT-TYPE
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
```

        "Maximum retry count for retransmitting request messages."
      ::= { sdvsmClientEntry 4 }

sdvsmClientMsgReqMinRetryInterval  OBJECT-TYPE
      SYNTAX    Integer32
      UNITS  "milliseconds"
      MAX-ACCESS read-only
      STATUS    current
      DESCRIPTION
          "Minimum time before retransmitting a request."
      ::= { sdvsmClientEntry 5 }

sdvsmClientMsgReqMaxRetryInterval  OBJECT-TYPE
      SYNTAX    Integer32
      UNITS  "milliseconds"
      MAX-ACCESS read-only
      STATUS    current
      DESCRIPTION
          "Maximum time before the SDV client retransmits a request."
      ::= { sdvsmClientEntry 6 }

sdvsmClientUserInteractionTimeout  OBJECT-TYPE
      SYNTAX    Integer32
      UNITS  "seconds"
      MAX-ACCESS read-only
      STATUS    current
      DESCRIPTION
          "Time to wait for the subscriber to respond to activity prompts
          (Are you watching TV?)."
      ::= { sdvsmClientEntry 7 }

sdvsmClientDefaultCaSystemId  OBJECT-TYPE
      SYNTAX    Integer32
      MAX-ACCESS read-only
      STATUS    current
      DESCRIPTION
          "Communicates the default conditional access system ID to the SDV
          client."
      ::= { sdvsmClientEntry 8 }

sdvsmClientDefaultEncoding  OBJECT-TYPE
      SYNTAX    Integer32
      MAX-ACCESS read-only
      STATUS    current
      DESCRIPTION
          "Default standard audio and video encoding supported by the
          set-top."
      ::= { sdvsmClientEntry 9 }

sdvsmClientDefaultCapabilities  OBJECT-TYPE
      SYNTAX    Integer32
      MAX-ACCESS read-only
      STATUS    current
      DESCRIPTION
          "Default capabilities of the set-top, such as modulation mode
          supported, HD, and wide screen."

::= { sdvsmClientEntry 10 }

sdvsmClientTunerHealthTest  OBJECT-TYPE
  SYNTAX Integer32
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION
    "Determine whether set-top tuned to appropriate frequency."
  ::= { sdvsmClientEntry 11 }

sdvsmClientMinimizeChannelReport  OBJECT-TYPE
  SYNTAX Integer32
  MAX-ACCESS read-only
  STATUS current
  DESCRIPTION
    "Specifies whether to SDV client (STB) is to report all channel
    changes, including broadcast, or only SDV channel changes."
  ::= { sdvsmClientEntry 12 }

sdvsmFrequencyPlanTable  OBJECT-TYPE
  SYNTAX SEQUENCE OF SdvsmFrequencyPlanEntry
  MAX-ACCESS not-accessible
  STATUS current
  DESCRIPTION
    "Specifies the frequency plan parameters for the configuration
    message. Note that for the frequency plan, the actual frequencies to
    scan should come from the QAMs assigned to those set-tops."
  ::= { sdvsmConfigObjects 3 }

sdvsmFrequencyPlanEntry  OBJECT-TYPE
  SYNTAX  SdvsmFrequencyPlanEntry
  MAX-ACCESS not-accessible
  STATUS current
  DESCRIPTION
    "Each entry represents a frequency plan associated with one or more
    service/TSID groups."
  INDEX { sdvsmServiceGroupID }
  ::= { sdvsmFrequencyPlanTable 1 }

SdvsmFrequencyPlanEntry ::= SEQUENCE {
  sdvsmFrequencyPlanIndex
    Unsigned32,
  sdvsmFrequencyPlanIpAddrType
    InetAddressType,
  sdvsmFrequencyPlanReportIpAddr
    InetAddress,
  sdvsmFrequencyPlanReportPort
    Integer32,
  sdvsmFrequencyPlanReportInterval
    Integer32,
  sdvsmFrequencyPlanMinFreqScanCount
    Integer32,
  sdvsmFrequencyPlanMaxFreqScanTime
    Integer32,
  sdvsmFrequencyPlanDiscoveryMethod
    INTEGER,

```
        sdvsmFrequencyPlanServiceGroup
                Integer32
}

sdvsmFrequencyPlanIndex  OBJECT-TYPE
        SYNTAX    Unsigned32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Table index."
        ::= { sdvsmFrequencyPlanEntry 1 }

sdvsmFrequencyPlanIpAddrType  OBJECT-TYPE
        SYNTAX    InetAddressType
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The type of IP stack of the server that receives the auto-discovery
                reports."
        ::= { sdvsmFrequencyPlanEntry 2 }

sdvsmFrequencyPlanReportIpAddr  OBJECT-TYPE
        SYNTAX    InetAddress
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "IP address of the server that receives auto discovery reports."
        ::= { sdvsmFrequencyPlanEntry 3 }

sdvsmFrequencyPlanReportPort  OBJECT-TYPE
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Port number of the server that receives auto discovery reports."
        ::= { sdvsmFrequencyPlanEntry 4 }

sdvsmFrequencyPlanReportInterval  OBJECT-TYPE
        SYNTAX    Integer32 (1..24)
        UNITS  "hours"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Maximum number of hours between discovery reports."
        ::= { sdvsmFrequencyPlanEntry 5 }

sdvsmFrequencyPlanMinFreqScanCount  OBJECT-TYPE
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Minimum number of frequencies that must be scanned before sending
                an auto discovery report."
        ::= { sdvsmFrequencyPlanEntry 6 }

sdvsmFrequencyPlanMaxFreqScanTime  OBJECT-TYPE
```

```
        SYNTAX    Integer32
        UNITS   "seconds"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Maximum amount of time to spend for auto discovery process.
                Cannot be zero."
        ::= { sdvsmFrequencyPlanEntry 7 }


sdvsmFrequencyPlanDiscoveryMethod  OBJECT-TYPE
        SYNTAX    INTEGER {
                frequencyPlusModulation (1),
                sourceID (2),
                virtualChannel (3)
        }
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Method used to determine the frequency to scan.
                1=frequency+modulation, 2=source ID, 3=virtual channel"
        ::= { sdvsmFrequencyPlanEntry 8 }


sdvsmFrequencyPlanServiceGroup  OBJECT-TYPE
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Optional component to assign a frequency plan to a specific Service
                Group or TSID Group.  If no Service Group/TSID Group is specified,
                then this frequency plan is the default frequency plan configuration
                for all service groups/TSID Groups without an explicit frequency
                plan entry."
        ::= { sdvsmFrequencyPlanEntry 9 }


sdvsmFrequencyPlanFreqTable  OBJECT-TYPE
        SYNTAX SEQUENCE OF SdvsmFrequencyPlanFreqEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "This table specifies the frequencies associated with a service
                group."
        ::= { sdvsmConfigObjects 4 }


sdvsmFrequencyPlanFreqEntry  OBJECT-TYPE
        SYNTAX          SdvsmFrequencyPlanFreqEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "Each entry specifies a frequency and its associated output TSID."
        INDEX { sdvsmFrequencyPlanIndex }
        ::= { sdvsmFrequencyPlanFreqTable 1 }


SdvsmFrequencyPlanFreqEntry ::= SEQUENCE {
        sdvsmFrequencyPlanFrequency
                Integer32,
        sdvsmFrequencyPlanTSID
```

```
                Integer32
}

sdvsmFrequencyPlanFrequency  OBJECT-TYPE
        SYNTAX    Integer32
        UNITS   "Hertz"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The frequency to scan."
        ::= { sdvsmFrequencyPlanFreqEntry 1 }

sdvsmFrequencyPlanTSID  OBJECT-TYPE
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The output TSID."
        ::= { sdvsmFrequencyPlanFreqEntry 2 }

sdvsmMpegProgNumRangeTable  OBJECT-TYPE
        SYNTAX SEQUENCE OF SdvsmMpegProgNumRangeEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "This table specifies SDV offered MPEG program number ranges."
        ::= { sdvsmConfigObjects 5 }

sdvsmMpegProgNumRangeEntry  OBJECT-TYPE
        SYNTAX         SdvsmMpegProgNumRangeEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "Each entry describes an MPEG program number range."
        INDEX { sdvsmMpegProgNumRangeIndex }
        ::= { sdvsmMpegProgNumRangeTable 1 }

SdvsmMpegProgNumRangeEntry ::= SEQUENCE {
        sdvsmMpegProgNumRangeIndex
                Integer32,
        sdvsmMpegProgNumRangeLowEnd
                Integer32,
        sdvsmMpegProgNumRangeHighEnd
                Integer32
}

sdvsmMpegProgNumRangeIndex  OBJECT-TYPE
        SYNTAX    Integer32 (1..100)
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "Table index."
        ::= { sdvsmMpegProgNumRangeEntry 1 }

sdvsmMpegProgNumRangeLowEnd  OBJECT-TYPE
        SYNTAX    Integer32 (1..65535)
```

MAX-ACCESS read-only
STATUS    current
DESCRIPTION
        "The lower end of the MPEG program number range used for Switched
        Digital Video. The range must be disjoint from the VOD MPEG
        program number range(s)."
::= { sdvsmMpegProgNumRangeEntry 2 }

sdvsmMpegProgNumRangeHighEnd  OBJECT-TYPE
        SYNTAX    Integer32 (1..65535)
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The upper end of the MPEG program number range used for Switched
                Digital Video. The range must be disjoint from the VOD MPEG
                program number range(s)."
        ::= { sdvsmMpegProgNumRangeEntry 3 }

sdvsmOdrmrTable  OBJECT-TYPE
        SYNTAX SEQUENCE OF SdvsmOdrmrEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "This table describes the On-Demand Resource Managers Redirector
                (ODRMR) associated for switched digital unicast. There can be 0 or
                more ODRMRs."
        ::= { sdvsmConfigObjects 6 }

sdvsmOdrmrEntry  OBJECT-TYPE
        SYNTAX        SdvsmOdrmrEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "Each entry describes a specific ERM."
        INDEX { sdvsmOdrmrIndex }
        ::= { sdvsmOdrmrTable 1 }

SdvsmOdrmrEntry ::= SEQUENCE {
        sdvsmOdrmrIndex
                Integer32,
        sdvsmOdrmrName
                DisplayString,
        sdvsmOdrmrIpAddrType
                InetAddressType,
        sdvsmOdrmrIpAddr
                InetAddress,
        sdvsmOdrmrTcpPort
                Integer32
}

sdvsmOdrmrIndex  OBJECT-TYPE
        SYNTAX    Integer32 (1..10000)
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "Table index."

```
            ::= { sdvsmOdrmrEntry 1 }

sdvsmOdrmrName  OBJECT-TYPE
        SYNTAX    DisplayString
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The name of the ODRM."
        ::= { sdvsmOdrmrEntry 2 }

sdvsmOdrmrIpAddrType  OBJECT-TYPE
        SYNTAX    InetAddressType
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The type of IP stack of the ODRM that the SDVSM communicates with."
        ::= { sdvsmOdrmrEntry 3 }

sdvsmOdrmrIpAddr  OBJECT-TYPE
        SYNTAX    InetAddress
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The IP address of the ODRM."
        ::= { sdvsmOdrmrEntry 4 }

sdvsmOdrmrTcpPort  OBJECT-TYPE
        SYNTAX    Integer32 (0..65535)
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The TCP port of the ODRM."
        ::= { sdvsmOdrmrEntry 5 }

sdvsmAdZoneTable  OBJECT-TYPE
        SYNTAX SEQUENCE OF SdvsmAdZoneEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "This table specifies the association between ad zone and
                service/TSID group."
        ::= { sdvsmConfigObjects 7 }

sdvsmAdZoneEntry  OBJECT-TYPE
        SYNTAX        SdvsmAdZoneEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "Each entry describes the mapping between ad zone and
                service/TSID group."
        INDEX { sdvsmServiceGroupID }
        ::= { sdvsmAdZoneTable 1 }

SdvsmAdZoneEntry ::= SEQUENCE {
        sdvsmAdZoneID
                Unsigned32
```

}

sdvsmAdZoneID  OBJECT-TYPE
      SYNTAX    Unsigned32
      MAX-ACCESS read-only
      STATUS    current
      DESCRIPTION
           "The Ad Zone identifier."
      ::= { sdvsmAdZoneEntry 1 }

-- SDV Program attributes.

sdvsmOfferedProgramTable  OBJECT-TYPE
      SYNTAX SEQUENCE OF SdvsmOfferedProgramEntry
      MAX-ACCESS not-accessible
      STATUS    current
      DESCRIPTION
           "Table of offered programs. This table defines the programs
           offered in the switched service and the associated configuration
           information."
      ::= { sdvsmOfferedPrograms 1 }

sdvsmOfferedProgramEntry  OBJECT-TYPE
      SYNTAX         SdvsmOfferedProgramEntry
      MAX-ACCESS not-accessible
      STATUS    current
      DESCRIPTION
           "Table entry for offer program configuration."
      INDEX { sdvsmOfferedProgramSourceID,
           sdvsmAdZoneID }
      ::= { sdvsmOfferedProgramTable 1 }

SdvsmOfferedProgramEntry ::= SEQUENCE {
      sdvsmOfferedProgramSourceID
           Integer32,
      sdvsmOfferedProgramName
           DisplayString,
      sdvsmOfferedProgramPriority
           Integer32,
      sdvsmOfferedProgramEncryption
           INTEGER,
      sdvsmOfferedProgramEncoding
           INTEGER,
      sdvsmOfferedProgramResolution
           INTEGER,
      sdvsmOfferedProgramBW
           Integer32,
      sdvsmOfferedProgramReclaimTime
           Integer32,
      sdvsmOfferedProgramRecapAckTime
           Integer32,
      sdvsmOfferedProgramInputMpegNo
           Integer32,
      sdvsmOfferedProgramState
           INTEGER,
      sdvsmOfferedProgramProviderID

```
            Integer32,
        sdvsmOfferedProgramAssetID
            Integer32
}
```

sdvsmOfferedProgramSourceID  OBJECT-TYPE
        SYNTAX    Integer32 (1..65535)
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
            "The source ID and also the index of the entry in the table."
        ::= { sdvsmOfferedProgramEntry 1 }

sdvsmOfferedProgramName  OBJECT-TYPE
        SYNTAX    DisplayString
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
            "The optional name of the switched service program."
        ::= { sdvsmOfferedProgramEntry 2 }

sdvsmOfferedProgramPriority  OBJECT-TYPE
        SYNTAX    Integer32 (1..16)
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
            "The priority of the switched service program.
            1 is the highest priority."
        ::= { sdvsmOfferedProgramEntry 3 }

sdvsmOfferedProgramEncryption  OBJECT-TYPE
        SYNTAX    INTEGER {
            none (1),
            dvb (2),
            mediaCipher (3),
            powerKEY (4),
            nds (5)
        }
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
            "The encryption type of the program."
        ::= { sdvsmOfferedProgramEntry 4 }

sdvsmOfferedProgramEncoding  OBJECT-TYPE
        SYNTAX    INTEGER {
            mpeg2 (1),
            h264 (2),
            vc1 (3)
        }
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
            "The encoding of the program (MPEG-2/MPEG-4/etc.)."
        ::= { sdvsmOfferedProgramEntry 5 }

sdvsmOfferedProgramResolution  OBJECT-TYPE
        SYNTAX    INTEGER {
                sd (1),
                hd (2)
        }
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The resolution of the program (HD/SD)."
        ::= { sdvsmOfferedProgramEntry 6 }

sdvsmOfferedProgramBW  OBJECT-TYPE
        SYNTAX    Integer32
        UNITS  "bps"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The bandwidth of the switched service program, CBR or maximum VBR."
        ::= { sdvsmOfferedProgramEntry 7 }

sdvsmOfferedProgramReclaimTime  OBJECT-TYPE
        SYNTAX    Integer32 (120..65535)
        UNITS  "minutes"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The reclaim time for the offered program. When all users of a
                program have been on the program without user activity for greater
                than this configured time, the bandwidth is considered eligible to
                be reclaimed."
        DEFVAL { 240 }
        ::= { sdvsmOfferedProgramEntry 8 }

sdvsmOfferedProgramRecapAckTime  OBJECT-TYPE
        SYNTAX    Integer32 (10..9999)
        UNITS  "seconds"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The recapture acknowledge time for the offered program. When a
                program is eligible for recapture, the SDV Server may cause the
                client to generate a message requesting acknowledgement. If the
                user does not acknowledge the message within this configured time,
                the program bandwidth can be reclaimed if bandwidth is needed."
        DEFVAL { 600 }
        ::= { sdvsmOfferedProgramEntry 9 }

sdvsmOfferedProgramInputMpegNo  OBJECT-TYPE
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Input MPEG program number."
        ::= { sdvsmOfferedProgramEntry 10 }

sdvsmOfferedProgramState  OBJECT-TYPE

```
        SYNTAX    INTEGER {
                switched (1),
                dynamic (2)
        }
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "An indication that the program can be switched or not."
        ::= { sdvsmOfferedProgramEntry 11 }


sdvsmOfferedProgramProviderID  OBJECT-TYPE
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Optional attribute for switched unicast to identify the provider ID
                of this offered program."
        ::= { sdvsmOfferedProgramEntry 12 }


sdvsmOfferedProgramAssetID  OBJECT-TYPE
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Optional attribute for switched unicast to identify the asset ID of
                this offered program."
        ::= { sdvsmOfferedProgramEntry 13 }


sdvsmOfferedProgramMulticastTable  OBJECT-TYPE
        SYNTAX SEQUENCE OF SdvsmOfferedProgramMulticastEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "This table describes the program multicast attributes."
        ::= { sdvsmOfferedPrograms 2 }


sdvsmOfferedProgramMulticastEntry  OBJECT-TYPE
        SYNTAX          SdvsmOfferedProgramMulticastEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "Each entry describes multicast attributes associated with a given
                program."
        INDEX { sdvsmOfferedProgramSourceID,
                sdvsmAdZoneID }
        ::= { sdvsmOfferedProgramMulticastTable 1 }


SdvsmOfferedProgramMulticastEntry ::= SEQUENCE {
        sdvsmOfferedProgramMulticastSourceIpAddrType
                InetAddressType,
        sdvsmOfferedProgramMulticastSourceIpAddr
                InetAddress,
        sdvsmOfferedProgramMulticastIpAddrType
                InetAddressType,
        sdvsmOfferedProgramMulticastIpAddr
                InetAddress,
```

```
        sdvsmOfferedProgramMulticastPort
                Integer32,
        sdvsmOfferedProgramMulticastSourcePriority
                INTEGER
}
```

sdvsmOfferedProgramMulticastSourceIpAddrType  OBJECT-TYPE
        SYNTAX    InetAddressType
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The type of IP stack of the content source for this multicast."
        ::= { sdvsmOfferedProgramMulticastEntry 1 }

sdvsmOfferedProgramMulticastSourceIpAddr  OBJECT-TYPE
        SYNTAX    InetAddress
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The content source IP for this multicast."
        ::= { sdvsmOfferedProgramMulticastEntry 2 }

sdvsmOfferedProgramMulticastIpAddrType  OBJECT-TYPE
        SYNTAX    InetAddressType
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The type of IP stack (IPv4 or IPv6) of the multicast program."
        ::= { sdvsmOfferedProgramMulticastEntry 3 }

sdvsmOfferedProgramMulticastIpAddr  OBJECT-TYPE
        SYNTAX    InetAddress
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The multicast IP address of the program."
        ::= { sdvsmOfferedProgramMulticastEntry 4 }

sdvsmOfferedProgramMulticastPort  OBJECT-TYPE
        SYNTAX    Integer32 (1..65535)
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The multicast port of the program."
        ::= { sdvsmOfferedProgramMulticastEntry 5 }

sdvsmOfferedProgramMulticastSourcePriority  OBJECT-TYPE
        SYNTAX    INTEGER {
                first (1),
                second (2),
                third (3)
        }
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The priority of the multicast source, e.g., first=1, second=2, and
```

third=3. The priority helps the SDVSM determine which source to join
first and next in case of failure of any given source."
::= { sdvsmOfferedProgramMulticastEntry 6 }

sdvsmSTBMacAddrTable  OBJECT-TYPE
        SYNTAX SEQUENCE OF SdvsmSTBMacAddrEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "The list of STB MAC addresses."
        ::= { sdvsmSTBCapabilities 1 }

sdvsmSTBMacAddrEntry  OBJECT-TYPE
        SYNTAX          SdvsmSTBMacAddrEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "Each entry consists of an STB MAC address."
        INDEX { sdvsmSTBIpAddr }
        ::= { sdvsmSTBMacAddrTable 1 }

SdvsmSTBMacAddrEntry ::= SEQUENCE {
        sdvsmSTBMacAddress
                MacAddress
}

sdvsmSTBMacAddress  OBJECT-TYPE
        SYNTAX    MacAddress
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The MAC address of the STB referenced by IP address."
        ::= { sdvsmSTBMacAddrEntry 1 }

-- Set-tops assigned to the SDV Server.

sdvsmSTBTable  OBJECT-TYPE
        SYNTAX SEQUENCE OF SdvsmSTBEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "Table of STBs learned from CCP."
        ::= { sdvsmSTBCapabilities 2 }

sdvsmSTBEntry  OBJECT-TYPE
        SYNTAX          SdvsmSTBEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "Each table entry describes an STB."
        INDEX { sdvsmSTBMacAddress }
        ::= { sdvsmSTBTable 1 }

SdvsmSTBEntry ::= SEQUENCE {
        sdvsmSTBIpAddrType
                InetAddressType,

```
        sdvsmSTBIpAddr
                InetAddress,
        sdvsmSTBCapabilityDescriptorResolution
                Integer32,
        sdvsmSTBStreamLUAEvent
                INTEGER,
        sdvsmSTBStreamLUATime
                DateAndTime,
        sdvsmSTBStreamProgramID
                Integer32,
        sdvsmSTBCaSystemBitmap
                Integer32,
        sdvsmSTBCaSystemID
                Integer32,
        sdvsmSTBNetworkBitmap
                Integer32,
        sdvsmSTBDvrSize
                Integer32,
        sdvsmSTBTotalNumTuners
                Integer32
}

sdvsmSTBIpAddrType  OBJECT-TYPE
        SYNTAX    InetAddressType
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The type of IP stack of the STB."
        ::= { sdvsmSTBEntry 1 }

sdvsmSTBIpAddr  OBJECT-TYPE
        SYNTAX    InetAddress
        MAX-ACCESS accessible-for-notify
        STATUS    current
        DESCRIPTION
                "The STB IP address."
        ::= { sdvsmSTBEntry 2 }

sdvsmSTBCapabilityDescriptorResolution  OBJECT-TYPE
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The configured resolution of the STB (HD/SD)."
        ::= { sdvsmSTBEntry 3 }

sdvsmSTBStreamLUAEvent  OBJECT-TYPE
        SYNTAX    INTEGER {
                powerOff (1),
                tune (2),
                keyPress (3)
        }
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The last user activity."
```

```
        ::= { sdvsmSTBEntry 4 }

sdvsmSTBStreamLUATime  OBJECT-TYPE
        SYNTAX    DateAndTime
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The time of the last user activity."
        ::= { sdvsmSTBEntry 5 }

sdvsmSTBStreamProgramID  OBJECT-TYPE
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The current broadcast program ID for the stream entry."
        ::= { sdvsmSTBEntry 6 }

sdvsmSTBCaSystemBitmap  OBJECT-TYPE
        SYNTAX    Integer32 (1..65535)
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Bitmap indicating the conditional access systems supported by the
                set-top.

                How to decode the conditional access bitmap:

                Field   Bits        Description
                -----   ----        -----------

                reserved 4-15       Unused set to zero

                NDS      3          Set-top supports NDS

                PowerKey 2          Set-top supports PowerKEY

                MediaCipher 1       Set-top supports MediaCipher

                DVB_CA   0          Set-top supports DVB Simulcrypt"
        ::= { sdvsmSTBEntry 7 }

sdvsmSTBCaSystemID  OBJECT-TYPE
        SYNTAX    Integer32 (1..65535)
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The ID of the conditional access system currently active on the
                STB."
        ::= { sdvsmSTBEntry 8 }

sdvsmSTBNetworkBitmap  OBJECT-TYPE
        SYNTAX    Integer32 (1..65535)
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
```

"Specifies the networks on which video/audio streams can be
received.

How to decode the network bitmap:

Field    Bits       Description
-----    ----       -----------

reserved 8-15     Unused set to zero

GSM        7       Set-top supports GSM

CDMA       6       Set-top support CDMA

MOCA       5       Set-top supports MOCA

WiFi       4       Set-top supports WiFi (802.11x)

Ethernet   3       Set-top supports Ethernet (10/100/1000)

DOCSIS     2       Set-top supports DOCSIS

QAM        1       Set-top supports QAM video delivery

reserved   0       Unused set to zero"
     ::= { sdvsmSTBEntry 9 }

sdvsmSTBDvrSize  OBJECT-TYPE
     SYNTAX    Integer32
     UNITS  "GB"
     MAX-ACCESS read-only
     STATUS    current
     DESCRIPTION
          "Size of the DVR hard drive. Zero (0) or 0xFFFF indicates no DVR
          capability."
     ::= { sdvsmSTBEntry 10 }

sdvsmSTBTotalNumTuners  OBJECT-TYPE
     SYNTAX    Integer32 (1..65535)
     MAX-ACCESS read-only
     STATUS    current
     DESCRIPTION
          "The total number of tuners in the set-top."
     ::= { sdvsmSTBEntry 11 }

sdvsmSTBTunerCapabilitiesTable  OBJECT-TYPE
     SYNTAX SEQUENCE OF SdvsmSTBTunerCapabilitiesEntry
     MAX-ACCESS not-accessible
     STATUS    current
     DESCRIPTION
          "This table describes the capabilities of each tuner of a given
          STB."
     ::= { sdvServerMIBObjects 5 }

sdvsmSTBTunerCapabilitiesEntry  OBJECT-TYPE
     SYNTAX         SdvsmSTBTunerCapabilitiesEntry

MAX-ACCESS not-accessible
STATUS    current
DESCRIPTION
            "Each entry describes the capabilities of an STB tuner."
INDEX { sdvsmSTBMacAddress }
::= { sdvsmSTBTunerCapabilitiesTable 1 }


SdvsmSTBTunerCapabilitiesEntry ::= SEQUENCE {
        sdvsmSTBTunerIdentifier
                Integer32,
        sdvsmSTBVideoDecodeBitmap
                Integer32,
        sdvsmSTBAudioDecodeBitmap
                Integer32
}

sdvsmSTBTunerIdentifier  OBJECT-TYPE
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "This field identifies the ID of the tuner that possesses the
                specified capabilities. A value of 0xFF indicates that the
                capabilities apply to all tuners."
        ::= { sdvsmSTBTunerCapabilitiesEntry 1 }

sdvsmSTBVideoDecodeBitmap  OBJECT-TYPE
        SYNTAX    Integer32 (1..65535)
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Bitmap that describes the video codec that are supported.

                How to decode the video codec bitmap:

                Field    Bits        Description
                -----    ----        -----------

                reserved 3-15        Unused set to zero

                VC-1      2        Settop supports VC-1

                H.264      1        Settop supports H.264 (MPEG-4 Part 10 or AVC)

                MPEG-2      0        Settop supports MPEG-2"
        ::= { sdvsmSTBTunerCapabilitiesEntry 2 }

sdvsmSTBAudioDecodeBitmap  OBJECT-TYPE
        SYNTAX    Integer32 (1..65535)
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Bitmap that specifies the audio codecs that are supported.

                How to decode the audio codec bitmap:

```
         FIELD    Bits      Description
         -----    ----      -----------

         reserved 3-15      Unused  set to zero

         MP3      2      Set-top supports MPEG audio layer-3

         AAC      1       Set-top supports AAC (Advanced Audio Coding)

         AC3      0      Set-top supports AC3 (Dolby Digital)."
    ::= { sdvsmSTBTunerCapabilitiesEntry 3 }


--
-- Service Groups assigned to the SDV Server.
--

sdvsmServiceGroupTable  OBJECT-TYPE
        SYNTAX SEQUENCE OF SdvsmServiceGroupEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "Table for service or TSID group configuration."
        ::= { sdvServerMIBObjects 6 }

sdvsmServiceGroupEntry  OBJECT-TYPE
        SYNTAX          SdvsmServiceGroupEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "Table entry for service or TSID group configuration."
        INDEX { sdvsmServiceGroupID }
        ::= { sdvsmServiceGroupTable 1 }

SdvsmServiceGroupEntry ::= SEQUENCE {
        sdvsmServiceGroupID
                Unsigned32,
        sdvsmServiceGroupLowWaterMark
                Integer32,
        sdvsmServiceGroupShareableBW
                Integer32,
        sdvsmServiceGroupHighWaterMark
                Integer32,
        sdvsmServiceGroupTotalBW
                Integer32,
        sdvsmServiceGroupActiveSdvBW
                Integer32,
        sdvsmServiceGroupBwThreshold
                Integer32,
        sdvsmServiceGroupPeakBW
                Integer32,
        sdvsmServiceGroupPeakTime
                DateAndTime,
        sdvsmServiceGroupPrevPeakTime
                DateAndTime,
        sdvsmServiceGroupPrevPeakBW
                Integer32,
```

```
        sdvsmServiceGroupYearPeakTime
                DateAndTime,
        sdvsmServiceGroupCcRequests
                Integer32,
        sdvsmServiceGroupCcSDRequests
                Integer32,
        sdvsmServiceGroupCcHDequests
                Integer32,
        sdvsmServiceGroupCcNCRequests
                Integer32,
        sdvsmServiceGroupCcH264Requests
                Integer32,
        sdvsmServiceGroupCcVC1Requests
                Integer32,
        sdvsmServiceGroupFailedBindings
                Integer32,
        sdvsmServiceGroupFailedSDBindings
                Integer32,
        sdvsmServiceGroupFailedHDBindings
                Integer32,
        sdvsmServiceGroupFailedNCBindings
                Integer32,
        sdvsmServiceGroupFailedH264Bindings
                Integer32,
        sdvsmServiceGroupFailedVC1Bindings
                Integer32,
        sdvsmServiceGroupCcWM9Requests
                Integer32,
        sdvsmServiceGroupMCPIpAddrType
                InetAddressType,
        sdvsmServiceGroupMCPIpAddr
                InetAddress,
        sdvsmServiceGroupMCversion
                Integer32,
        sdvsmServiceGroupActiveSTBs
                Integer32,
        sdvsmServiceGroupSTBCapacity
                Integer32
}

sdvsmServiceGroupID  OBJECT-TYPE
        SYNTAX    Unsigned32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The service group ID or TSID group ID and the index to the table
                entry."
        ::= { sdvsmServiceGroupEntry 1 }

sdvsmServiceGroupLowWaterMark  OBJECT-TYPE
        SYNTAX    Integer32
        UNITS   "bps"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The amount of service or TSID group bandwidth partitioned for
```

SDV-only use."
::= { sdvsmServiceGroupEntry 2 }

sdvsmServiceGroupShareableBW  OBJECT-TYPE
        SYNTAX    Integer32
        UNITS  "bps"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The amount of service or TSID group bandwidth which is available to
                SDV and other services (typically VoD)."
        ::= { sdvsmServiceGroupEntry 3 }

sdvsmServiceGroupHighWaterMark  OBJECT-TYPE
        SYNTAX    Integer32
        UNITS  "bps"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Low Water Mark and Shareable Bandwidth combined. Service or TSID
                group bandwidth above the High Water Mark is not available to SDV,
                and is typically reserved for VoD use only."
        ::= { sdvsmServiceGroupEntry 4 }

sdvsmServiceGroupTotalBW  OBJECT-TYPE
        SYNTAX    Integer32
        UNITS  "bps"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The total amount of bandwidth in the service or TSID group."
        ::= { sdvsmServiceGroupEntry 5 }

sdvsmServiceGroupActiveSdvBW  OBJECT-TYPE
        SYNTAX    Integer32
        UNITS  "bps"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The bandwidth currently in use on the QAM carriers by SDV."
        ::= { sdvsmServiceGroupEntry 6 }

sdvsmServiceGroupBwThreshold  OBJECT-TYPE
        SYNTAX    Integer32
        UNITS  "%"
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The threshold expressed as a percentage of total
                ServiceGroup/SIDGroup Bandwidth that if exceeded would trigger an
                alarm."
        DEFVAL { 90 }
        ::= { sdvsmServiceGroupEntry 7 }

sdvsmServiceGroupPeakBW  OBJECT-TYPE
        SYNTAX    Integer32

UNITS "bps"
MAX-ACCESS read-only
STATUS    current
DESCRIPTION
       "The maximum bandwidth consumed by the switched service since
       midnight. This object is moved to the previous peak object and
       then reset at midnight."
::= { sdvsmServiceGroupEntry 8 }


sdvsmServiceGroupPeakTime  OBJECT-TYPE
     SYNTAX    DateAndTime
     MAX-ACCESS read-only
     STATUS    current
     DESCRIPTION
       "The date/time of maximum bandwidth usage."
     ::= { sdvsmServiceGroupEntry 9 }


sdvsmServiceGroupPrevPeakTime  OBJECT-TYPE
     SYNTAX    DateAndTime
     MAX-ACCESS read-only
     STATUS    current
     DESCRIPTION
       "The date/time of maximum bandwidth usage for the previous day."
     ::= { sdvsmServiceGroupEntry 10 }


sdvsmServiceGroupPrevPeakBW  OBJECT-TYPE
     SYNTAX    Integer32
     UNITS "bps"
     MAX-ACCESS read-only
     STATUS    current
     DESCRIPTION
       "The maximum bandwidth consumed by the switched service on the
       previous day. This object is updated at midnight."
     ::= { sdvsmServiceGroupEntry 11 }


sdvsmServiceGroupYearPeakTime  OBJECT-TYPE
     SYNTAX    DateAndTime
     MAX-ACCESS read-only
     STATUS    current
     DESCRIPTION
       "The date/time of maximum bandwidth usage for the year so far."
     ::= { sdvsmServiceGroupEntry 12 }


sdvsmServiceGroupCcRequests  OBJECT-TYPE
     SYNTAX    Integer32
     MAX-ACCESS read-only
     STATUS    current
     DESCRIPTION
       "The count of the number of channel change requests."
     ::= { sdvsmServiceGroupEntry 13 }


sdvsmServiceGroupCcSDRequests  OBJECT-TYPE
     SYNTAX    Integer32
     MAX-ACCESS read-only
     STATUS    current
     DESCRIPTION

"The number of channel change requests for SD channels."
::= { sdvsmServiceGroupEntry 14 }

sdvsmServiceGroupCcHDequests  OBJECT-TYPE
SYNTAX    Integer32
MAX-ACCESS read-only
STATUS    current
DESCRIPTION
"The count of the number of channel change requests for HD."
::= { sdvsmServiceGroupEntry 15 }

sdvsmServiceGroupCcNCRequests  OBJECT-TYPE
SYNTAX    Integer32
MAX-ACCESS read-only
STATUS    current
DESCRIPTION
"The count of the number of channel change requests for
narrowcast."
::= { sdvsmServiceGroupEntry 16 }

sdvsmServiceGroupCcH264Requests  OBJECT-TYPE
SYNTAX    Integer32
MAX-ACCESS read-only
STATUS    current
DESCRIPTION
"The count of the number of channel change requests for H.264
channels."
::= { sdvsmServiceGroupEntry 17 }

sdvsmServiceGroupCcVC1Requests  OBJECT-TYPE
SYNTAX    Integer32
MAX-ACCESS read-only
STATUS    current
DESCRIPTION
"The count of the number of channel change requests for VC-1
channels."
::= { sdvsmServiceGroupEntry 18 }

sdvsmServiceGroupFailedBindings  OBJECT-TYPE
SYNTAX    Integer32
MAX-ACCESS read-only
STATUS    current
DESCRIPTION
"The number of failed binding requests."
::= { sdvsmServiceGroupEntry 19 }

sdvsmServiceGroupFailedSDBindings  OBJECT-TYPE
SYNTAX    Integer32
MAX-ACCESS read-only
STATUS    current
DESCRIPTION
"The number of failed SD binding requests."
::= { sdvsmServiceGroupEntry 20 }

sdvsmServiceGroupFailedHDBindings  OBJECT-TYPE
SYNTAX    Integer32

        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The number of failed HD binding requests."
        ::= { sdvsmServiceGroupEntry 21 }


sdvsmServiceGroupFailedNCBindings  OBJECT-TYPE
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The number of failed narrowcast binding requests."
        ::= { sdvsmServiceGroupEntry 22 }


sdvsmServiceGroupFailedH264Bindings  OBJECT-TYPE
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The number of failed H.264 binding requests."
        ::= { sdvsmServiceGroupEntry 23 }


sdvsmServiceGroupFailedVC1Bindings  OBJECT-TYPE
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The number of failed VC1 binding requests."
        ::= { sdvsmServiceGroupEntry 24 }


sdvsmServiceGroupCcWM9Requests  OBJECT-TYPE
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The count of the number of channel change requests for WM9
                channels."
        ::= { sdvsmServiceGroupEntry 25 }


sdvsmServiceGroupMCPIpAddrType  OBJECT-TYPE
        SYNTAX    InetAddressType
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The type of IP stack (IPv4 or IPv6) of the mini-carousel destination."
        ::= { sdvsmServiceGroupEntry 26 }


sdvsmServiceGroupMCPIpAddr  OBJECT-TYPE
        SYNTAX    InetAddress
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Mini Carousel destination IP address (multicast or unicast)."
        ::= { sdvsmServiceGroupEntry 27 }


sdvsmServiceGroupMCversion  OBJECT-TYPE

```
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The version of the mini-carousel currently being multicast for
                this service group."
        ::= { sdvsmServiceGroupEntry 28 }

sdvsmServiceGroupActiveSTBs  OBJECT-TYPE
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "Number of active STBs."
        ::= { sdvsmServiceGroupEntry 29 }

sdvsmServiceGroupSTBCapacity  OBJECT-TYPE
        SYNTAX    Integer32
        MAX-ACCESS read-only
        STATUS    current
        DESCRIPTION
                "The total number of set-tops this service group is allowed to
                support."
        DEFVAL { 2000 }
        ::= { sdvsmServiceGroupEntry 30 }

--  SDV program status.

sdvsmActiveProgramTable  OBJECT-TYPE
        SYNTAX SEQUENCE OF SdvsmActiveProgramEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "Table of active programs. This table defines the programs active
                in the switched service."
        ::= { sdvServerMIBObjects 7 }

sdvsmActiveProgramEntry  OBJECT-TYPE
        SYNTAX        SdvsmActiveProgramEntry
        MAX-ACCESS not-accessible
        STATUS    current
        DESCRIPTION
                "Table entry for offer program configuration."
        INDEX { sdvsmOfferedProgramSourceID,
                sdvsmServiceGroupID,
                sdvsmAdZoneID }
        ::= { sdvsmActiveProgramTable 1 }

SdvsmActiveProgramEntry ::= SEQUENCE {
        sdvsmActiveProgramSessionID
                OCTET STRING,
        sdvsmActiveProgramMpegPN
                Integer32,
        sdvsmActiveProgramNumUsers
                Integer32,
        sdvsmActiveProgramBW
```

```
            Integer32,
      sdvsmActiveProgramIsfallback
            TruthValue
}
```

sdvsmActiveProgramSessionID  OBJECT-TYPE
      SYNTAX    OCTET STRING (SIZE(0..9))
      MAX-ACCESS read-only
      STATUS    current
      DESCRIPTION
           "The session ID of the session bound to the program."
      ::= { sdvsmActiveProgramEntry 1 }

sdvsmActiveProgramMpegPN  OBJECT-TYPE
      SYNTAX    Integer32 (1..65535)
      MAX-ACCESS read-only
      STATUS    current
      DESCRIPTION
           "The MPEG program number assigned to the bound program."
      ::= { sdvsmActiveProgramEntry 2 }

sdvsmActiveProgramNumUsers  OBJECT-TYPE
      SYNTAX    Integer32
      MAX-ACCESS read-only
      STATUS    current
      DESCRIPTION
           "The number of users tuned to the service."
      ::= { sdvsmActiveProgramEntry 3 }

sdvsmActiveProgramBW  OBJECT-TYPE
      SYNTAX    Integer32
      MAX-ACCESS read-only
      STATUS    current
      DESCRIPTION
           "The bandwidth of the active program."
      ::= { sdvsmActiveProgramEntry 4 }

sdvsmActiveProgramIsfallback  OBJECT-TYPE
      SYNTAX    TruthValue
      MAX-ACCESS read-only
      STATUS    current
      DESCRIPTION
           "Indicates whether the active program is a fallback for
           another program."
      ::= { sdvsmActiveProgramEntry 5 }

sdvsmNumberSTBs  OBJECT-TYPE
      SYNTAX    Integer32 (0..15000)
      MAX-ACCESS read-only
      STATUS    current
      DESCRIPTION
           "The number of STBs in the STB table."
      ::= { sdvsmDiagnostics 1 }

sdvsmSTBCapacityStatus  OBJECT-TYPE
      SYNTAX    INTEGER {

                    ok (1),
                    minor (2),
                    major (3)
            }
            MAX-ACCESS read-only
            STATUS    current
            DESCRIPTION
                    "The status of the available space in the STB table. The state
                    Alarm-xxxxx indicates that less than the configured threshold is
                    available."
            ::= { sdvsmDiagnostics 2 }

sdvsmSRMStatus  OBJECT-TYPE
            SYNTAX    INTEGER {
                    ok (1),
                    major (2)
            }
            MAX-ACCESS read-only
            STATUS    current
            DESCRIPTION
                    "The status of the interface to the SRM. Alarm indicates the SRM is
                    not responding to bandwidth requests."
            ::= { sdvsmDiagnostics 3 }

sdvsmSRMRequests  OBJECT-TYPE
            SYNTAX    Integer32
            MAX-ACCESS read-only
            STATUS    current
            DESCRIPTION
                    "The count of the number of requests to the SRM."
            ::= { sdvsmDiagnostics 4 }

sdvsmSRMRequestDenied  OBJECT-TYPE
            SYNTAX    Integer32
            MAX-ACCESS read-only
            STATUS    current
            DESCRIPTION
                    "The count of the number of bandwidth requests to the SRM that
                    were denied."
            ::= { sdvsmDiagnostics 5 }

sdvsmInvalidSGRequests  OBJECT-TYPE
            SYNTAX    Integer32
            MAX-ACCESS read-only
            STATUS    current
            DESCRIPTION
                    "The number of invalid CCP requests for unsupported SGs."
            ::= { sdvsmDiagnostics 6 }

sdvsmInitTrapInfo  NOTIFICATION-TYPE
            OBJECTS { sdvsmName,
                    sdvsmMacAddress }
            STATUS    current
            DESCRIPTION
                    "Initialization trap."
            ::= { sdvServerEventsV2 1 }

sdvsmHeartbeatTrap  NOTIFICATION-TYPE
        OBJECTS { sdvsmName,
               sdvsmMacAddress }
        STATUS    current
        DESCRIPTION
               "A periodic heartbeat sent by the secondary SDV Server in a
               redundancy configuration and by every primary in a non-redundant
               configuration. In a redundancy configuration, the primaries do not
               send heartbeats to the DNCS. They sent heartbeats to the secondary
               or backup instead."
        ::= { sdvServerEventsV2 2 }

sdvsmProvisionedTrap  NOTIFICATION-TYPE
        OBJECTS { sdvsmName,
               sdvsmMacAddress }
        STATUS    current
        DESCRIPTION
               "A trap indicating that the SDV Server has successfully provisioned
               itself. This trap is sent ONLY following initialization and
               provisioning."
        ::= { sdvServerEventsV2 3 }

sdvSsmProgramViewersRemovedTrap  NOTIFICATION-TYPE
        OBJECTS { sdvsmName,
               sdvsmMacAddress,
               sdvsmOfferedProgramName,
               sdvsmOfferedProgramPriority,
               sdvsmOfferedProgramInputMpegNo,
               sdvsmActiveProgramSessionID }
        STATUS    current
        DESCRIPTION
               "The SDV Server has removed a program with viewers to free up
               bandwidth."
        ::= { sdvServerEventsV2 4 }

sdvsmLackBWDeniedCC  NOTIFICATION-TYPE
        OBJECTS { sdvsmName,
               sdvsmMacAddress,
               sdvsmOfferedProgramName,
               sdvsmOfferedProgramBW }
        STATUS    current
        DESCRIPTION
               "SDV Channel Change Request Denied for Lack of Bandwidth."
        ::= { sdvServerEventsV2 5 }

sdvsmExceededTunerCount  NOTIFICATION-TYPE
        OBJECTS { sdvsmName,
               sdvsmMiniCarouselDestIpAddr }
        STATUS    current
        DESCRIPTION
               "This trap is issued by the SDVSM when its rated tuner count is
               exceeded."
        ::= { sdvServerEventsV2 6 }

sdvsmAutoDiscoverFailure  NOTIFICATION-TYPE

```
        OBJECTS { sdvsmName,
                sdvsmMacAddress,
                sdvsmFrequencyPlanServiceGroup,
                sdvsmFrequencyPlanTSID }
        STATUS    current
        DESCRIPTION
                "This trap is sent when a TSID mismatch occurs."
        ::= { sdvServerEventsV2 7 }

-- Compliance statements

sdvServerCompliance  MODULE-COMPLIANCE
        STATUS    current
        DESCRIPTION
                "The minimum compliance statement for SDV Servers."
        MODULE
                MANDATORY-GROUPS { sdvsmConfigGroup,
                                        sdvsmDiagsGroup,
                                        sdvsmServiceGrpObjsGroup,
                                        sdvsmSTBGroup,
                                        sdvsmTrapGroup }
                GROUP sdvsmProgramGroup
                DESCRIPTION
                "The sdvsmProgram Group is unconditionally optional."
                GROUP sdvsmClientConfigGroup
                DESCRIPTION
                "The sdvsmClientConfigGroup is unconditionally optional."
        ::= { sdvServerCompliances 1 }

sdvsmConfigGroup  OBJECT-GROUP
        OBJECTS { sdvsmMiniCarouselPath,
                sdvsmMiniCarouselBitRate,
                sdvsmMiniCarouselDestIpAddrType,
                sdvsmMiniCarouselDestIpAddr,
                sdvsmMiniCarouselUdpPort,
                sdvsmFrequencyPlanIpAddrType,
                sdvsmFrequencyPlanReportIpAddr,
                sdvsmFrequencyPlanReportPort,
                sdvsmFrequencyPlanReportInterval,
                sdvsmFrequencyPlanMinFreqScanCount,
                sdvsmFrequencyPlanMaxFreqScanTime,
                sdvsmFrequencyPlanDiscoveryMethod,
                sdvsmFrequencyPlanServiceGroup,
                sdvsmOfferedProgramSourceID,
                sdvsmOfferedProgramName,
                sdvsmOfferedProgramPriority,
                sdvsmOfferedProgramEncryption,
                sdvsmOfferedProgramEncoding,
                sdvsmOfferedProgramResolution,
                sdvsmOfferedProgramBW,
                sdvsmOfferedProgramReclaimTime,
                sdvsmOfferedProgramRecapAckTime,
                sdvsmOfferedProgramInputMpegNo,
                sdvsmOfferedProgramState,
                sdvsmOfferedProgramProviderID,
                sdvsmOfferedProgramAssetID,
```

sdvsmOfferedProgramMulticastSourceIpAddr,
sdvsmOfferedProgramMulticastIpAddr,
sdvsmOfferedProgramMulticastPort,
sdvsmMpegProgNumRangeLowEnd,
sdvsmMiniCarouselSize,
sdvsmMiniCarouselTransmissionFrequency,
sdvsmFrequencyPlanIndex,
sdvsmMacAddress,
sdvsmName,
sdvsmMpegProgNumRangeHighEnd,
sdvsmFrequencyPlanFrequency,
sdvsmFrequencyPlanTSID,
sdvsmOdrmrName,
sdvsmOdrmrIpAddrType,
sdvsmOdrmrIpAddr,
sdvsmOdrmrTcpPort }
STATUS    current
DESCRIPTION
"The SDV Server configuration objects."
::= { sdvServerGroups 1 }

sdvsmDiagsGroup  OBJECT-GROUP
OBJECTS { sdvsmNumberSTBs,
sdvsmSTBCapacityStatus,
sdvsmSRMStatus,
sdvsmSRMRequests,
sdvsmSRMRequestDenied,
sdvsmInvalidSGRequests }
STATUS    current
DESCRIPTION
"The status/diagnostic objects of the SDV Server."
::= { sdvServerGroups 2 }

sdvsmServiceGrpObjsGroup  OBJECT-GROUP
OBJECTS { sdvsmServiceGroupID,
sdvsmServiceGroupTotalBW,
sdvsmServiceGroupActiveSdvBW,
sdvsmServiceGroupBwThreshold,
sdvsmServiceGroupPeakBW,
sdvsmServiceGroupPeakTime,
sdvsmServiceGroupPrevPeakTime,
sdvsmServiceGroupPrevPeakBW,
sdvsmServiceGroupYearPeakTime,
sdvsmServiceGroupCcRequests,
sdvsmServiceGroupCcSDRequests,
sdvsmServiceGroupCcHDequests,
sdvsmServiceGroupCcNCRequests,
sdvsmServiceGroupCcH264Requests,
sdvsmServiceGroupCcVC1Requests,
sdvsmServiceGroupFailedBindings,
sdvsmServiceGroupFailedSDBindings,
sdvsmServiceGroupFailedHDBindings,
sdvsmServiceGroupFailedNCBindings,
sdvsmServiceGroupFailedH264Bindings,
sdvsmServiceGroupFailedVC1Bindings,
sdvsmServiceGroupCcWM9Requests,

         sdvsmServiceGroupMCPIpAddrType,
         sdvsmServiceGroupMCPIpAddr,
         sdvsmServiceGroupMCversion,
         sdvsmServiceGroupActiveSTBs,
         sdvsmAdZoneID,
         sdvsmServiceGroupSTBCapacity,
         sdvsmServiceGroupLowWaterMark,
         sdvsmServiceGroupShareableBW,
         sdvsmServiceGroupHighWaterMark }
    STATUS    current
    DESCRIPTION
         "The service groups objects for the SDV Server."
    ::= { sdvServerGroups 3 }

sdvsmProgramGroup  OBJECT-GROUP
    OBJECTS { sdvsmActiveProgramSessionID,
         sdvsmActiveProgramMpegPN,
         sdvsmActiveProgramNumUsers,
         sdvsmActiveProgramBW,
         sdvsmActiveProgramIsfallback,
         sdvsmOfferedProgramSourceID,
         sdvsmOfferedProgramName,
         sdvsmOfferedProgramPriority,
         sdvsmOfferedProgramEncryption,
         sdvsmOfferedProgramEncoding,
         sdvsmOfferedProgramResolution,
         sdvsmOfferedProgramBW,
         sdvsmOfferedProgramReclaimTime,
         sdvsmOfferedProgramRecapAckTime,
         sdvsmOfferedProgramInputMpegNo,
         sdvsmOfferedProgramState,
         sdvsmOfferedProgramProviderID,
         sdvsmOfferedProgramAssetID,
         sdvsmOfferedProgramMulticastSourceIpAddrType,
         sdvsmOfferedProgramMulticastSourceIpAddr,
         sdvsmOfferedProgramMulticastIpAddrType,
         sdvsmOfferedProgramMulticastIpAddr,
         sdvsmOfferedProgramMulticastPort,
         sdvsmOfferedProgramMulticastSourcePriority }
    STATUS    current
    DESCRIPTION
         "The objects of characterizing an SDV program."
    ::= { sdvServerGroups 4 }

sdvsmSTBGroup  OBJECT-GROUP
    OBJECTS { sdvsmSTBIpAddrType,
         sdvsmSTBIpAddr,
         sdvsmSTBCapabilityDescriptorResolution,
         sdvsmSTBStreamLUAEvent,
         sdvsmSTBStreamLUATime,
         sdvsmSTBStreamProgramID,
         sdvsmSTBVideoDecodeBitmap,
         sdvsmSTBTunerIdentifier,
         sdvsmSTBAudioDecodeBitmap,
         sdvsmSTBCaSystemBitmap,
         sdvsmSTBCaSystemID,

```
                sdvsmSTBNetworkBitmap,
                sdvsmSTBDvrSize,
                sdvsmSTBTotalNumTuners,
                sdvsmSTBMacAddress }
        STATUS    current
        DESCRIPTION
                "STB objects group."
        ::= { sdvServerGroups 5 }


sdvsmClientConfigGroup  OBJECT-GROUP
        OBJECTS { sdvsmClientRexmitPgmSelectInterval,
                sdvsmClientLastUserActivityInterval,
                sdvsmClientMsgRespTimeout,
                sdvsmClientMsgReqMaxRetries,
                sdvsmClientMsgReqMinRetryInterval,
                sdvsmClientMsgReqMaxRetryInterval,
                sdvsmClientUserInteractionTimeout,
                sdvsmClientDefaultCaSystemId,
                sdvsmClientDefaultEncoding,
                sdvsmClientDefaultCapabilities,
                sdvsmClientTunerHealthTest,
                sdvsmClientMinimizeChannelReport }
        STATUS    current
        DESCRIPTION
                "This group describes the SDV client configuration objects."
        ::= { sdvServerGroups 6 }


sdvsmTrapGroup  NOTIFICATION-GROUP
        NOTIFICATIONS { sdvsmInitTrapInfo,
                sdvsmHeartbeatTrap,
                sdvsmProvisionedTrap,
                sdvSsmProgramViewersRemovedTrap,
                sdvsmLackBWDeniedCC,
                sdvsmExceededTunerCount,
                sdvsmAutoDiscoverFailure }
        STATUS    current
        DESCRIPTION
                "The group of SDVSM traps."
        ::= { sdvServerGroups 7 }
END
```