Chapter 28
JUNOS Proprietary MIBs and Traps

The JUNOS software supports the following proprietary MIBs and proprietary traps:

Chassis MIB

The JUNOS chassis MIB provides environmental monitoring (power supply state, board voltages, fans, temperatures, air flow) and inventory support for the chassis, SCB, SSB, SFM, FPCs, and PICs.

How Interface Indexes Are Represented in the Chassis MIB

In the router, interfaces are assigned index numbers on a first-come, first-served basis, as the interfaces appear to the system. Generally, the system first discovers the physical cards and assigns numbers to the physical interfaces. The system typically discovers the logical units later, so assigns these higher numbers.

How the system assigns index numbers is nondeterministic, which might result in the assignment of nonsequential index numbers to PICs on the same FPC. The system assigns index numbers as it registers each individual PIC.

An index number remains bound to a physical interface and is not reused unless the associated PIC is removed from the router, the interface configuration is removed from the router configuration, and the router is rebooted. Otherwise, the physical interface maintains the same index indefinitely.

An index number remains bound to a logical interface and is not reused unless the unit configuration is removed from the router configuration and the router is rebooted. Otherwise, the logical unit maintains the same index indefinitely.

Chassis MIB Contents

For a downloadable version of this MIB, see
www.juniper.net/techpubs/software/junos42/swconfig-install42/html/mib-chassis.txt.

```
--
-- Juniper Enterprise Specific MIB: Chassis MIB
--
-- Copyright (c) 1998-2000, Juniper Networks, Inc.
-- All rights reserved.
--
-- The contents of this document are subject to change without notice.
--

JUNIPER-MIB
DEFINITIONS ::= BEGIN
IMPORTS
    MODULE-IDENTITY, OBJECT-TYPE, NOTIFICATION-TYPE,
    enterprises, Integer32, Gauge32
        FROM SNMPv2-SMI
    DisplayString, TimeStamp, TimeInterval
        FROM SNMPv2-TC;
juniperMIB MODULE-IDENTITY
    LAST-UPDATED "0010040000Z"
    ORGANIZATION "Juniper Networks, Inc."
    CONTACT-INFO
            "Juniper Technical Assistance Center
            Juniper Networks, Inc.
            1194 N. Mathilda Avenue
            Sunnyvale, CA 94089
            E-mail: support@juniper.net"
    DESCRIPTION
          "The MIB modules representing Juniper Networks' implementation of enterprise-specific MIBs
          supported by a single SNMP agent."
    ::= { enterprises 2636 }

--
-- Juniper MIB tree structure
--

jnxProducts     OBJECT IDENTIFIER ::= { juniperMIB 1 }
jnxServices     OBJECT IDENTIFIER ::= { juniperMIB 2 }
jnxMibs         OBJECT IDENTIFIER ::= { juniperMIB 3 }
jnxTraps        OBJECT IDENTIFIER ::= { juniperMIB 4 }

--
-- Products Classification
--

jnxClassification OBJECT IDENTIFIER ::= { jnxProducts 1 }
jnxClassGeneral      OBJECT IDENTIFIER ::= { jnxClassification 1 }
jnxClassContainers   OBJECT IDENTIFIER ::= { jnxClassification 2 }
jnxClassContents     OBJECT IDENTIFIER ::= { jnxClassification 3 }
jnxClassStatus       OBJECT IDENTIFIER ::= { jnxClassification 4 }
```

```
--
-- General Information
--

-- Product Line

jnxProductLine    OBJECT IDENTIFIER ::= { jnxClassGeneral 1 }

  jnxProductLineM40       OBJECT IDENTIFIER ::= { jnxProductLine 1 }
  jnxProductLineM20       OBJECT IDENTIFIER ::= { jnxProductLine 2 }
  jnxProductLineM160      OBJECT IDENTIFIER ::= { jnxProductLine 3 }
  jnxProductLineM10       OBJECT IDENTIFIER ::= { jnxProductLine 4 }
  jnxProductLineM5        OBJECT IDENTIFIER ::= { jnxProductLine 5 }

-- Product Name

jnxProductName     OBJECT IDENTIFIER ::= { jnxClassGeneral 2 }

  jnxProductNameM40     OBJECT IDENTIFIER ::= { jnxProductName 1 }
  jnxProductNameM20     OBJECT IDENTIFIER ::= { jnxProductName 2 }
  jnxProductNameM160    OBJECT IDENTIFIER ::= { jnxProductName 3 }
  jnxProductNameM10     OBJECT IDENTIFIER ::= { jnxProductName 4 }
  jnxProductNameM5      OBJECT IDENTIFIER ::= { jnxProductName 5 }

-- Product Model

jnxProductModel     OBJECT IDENTIFIER ::= { jnxClassGeneral 3 }

  jnxProductModelM40     OBJECT IDENTIFIER ::= { jnxProductModel 1 }
  jnxProductModelM20     OBJECT IDENTIFIER ::= { jnxProductModel 2 }
  jnxProductModelM160    OBJECT IDENTIFIER ::= { jnxProductModel 3 }
  jnxProductModelM10     OBJECT IDENTIFIER ::= { jnxProductModel 4 }
  jnxProductModelM5      OBJECT IDENTIFIER ::= { jnxProductModel 5 }

jnxProductVariation OBJECT IDENTIFIER ::= { jnxClassGeneral 4 }

  jnxProductVariationM40     OBJECT IDENTIFIER ::= { jnxProductVariation 1 }
  jnxProductVariationM20     OBJECT IDENTIFIER ::= { jnxProductVariation 2 }
  jnxProductVariationM160    OBJECT IDENTIFIER ::= { jnxProductVariation 3 }
  jnxProductVariationM10     OBJECT IDENTIFIER ::= { jnxProductVariation 4 }
  jnxProductVariationM5      OBJECT IDENTIFIER ::= { jnxProductVariation 5 }

--
-- Containers
--

-- Chassis

jnxChassis     OBJECT IDENTIFIER ::= { jnxClassContainers 1 }

  jnxChassisM40     OBJECT IDENTIFIER ::= { jnxChassis 1 }
  jnxChassisM20     OBJECT IDENTIFIER ::= { jnxChassis 2 }
  jnxChassisM160    OBJECT IDENTIFIER ::= { jnxChassis 3 }
  jnxChassisM10     OBJECT IDENTIFIER ::= { jnxChassis 4 }
  jnxChassisM5      OBJECT IDENTIFIER ::= { jnxChassis 5 }
```

```
-- Slot

jnxSlot     OBJECT IDENTIFIER ::= { jnxClassContainers 2 }

  jnxSlotM40    OBJECT IDENTIFIER ::= { jnxSlot 1 }

    jnxSlotFPC                OBJECT IDENTIFIER ::= { jnxSlotM40 1 }
    jnxSlotSCB                OBJECT IDENTIFIER ::= { jnxSlotM40 2 }
    jnxSlotHostCtlr           OBJECT IDENTIFIER ::= { jnxSlotM40 3 }
    jnxSlotPowerSupply        OBJECT IDENTIFIER ::= { jnxSlotM40 4 }
    jnxSlotCoolingImpeller    OBJECT IDENTIFIER ::= { jnxSlotM40 5 }
    jnxSlotCoolingFan         OBJECT IDENTIFIER ::= { jnxSlotM40 6 }
    jnxSlotRoutingEngine      OBJECT IDENTIFIER ::= { jnxSlotM40 7 }

  jnxSlotM20  OBJECT IDENTIFIER ::= { jnxSlot 2 }

    jnxM20SlotFPC             OBJECT IDENTIFIER ::= { jnxSlotM20 1 }
                              -- Flexible Port Concentrator slot
    jnxM20SlotSSB             OBJECT IDENTIFIER ::= { jnxSlotM20 2 }
                              -- System Switch Board slot
    jnxM20SlotRE              OBJECT IDENTIFIER ::= { jnxSlotM20 3 }
                              -- Routing Engine slot
    jnxM20SlotPower           OBJECT IDENTIFIER ::= { jnxSlotM20 4 }
    jnxM20SlotFan             OBJECT IDENTIFIER ::= { jnxSlotM20 5 }
    jnxM20SlotFrontPanel      OBJECT IDENTIFIER ::= { jnxSlotM20 6 }

  jnxSlotM160  OBJECT IDENTIFIER ::= { jnxSlot 3 }

    jnxM160SlotFPC            OBJECT IDENTIFIER ::= { jnxSlotM160 1 }
                              -- Flexible Port Concentrator slot
    jnxM160SlotSFM            OBJECT IDENTIFIER ::= { jnxSlotM160 2 }
                              -- Switching & Forwarding Module slot
    jnxM160SlotHM             OBJECT IDENTIFIER ::= { jnxSlotM160 3 }
                              -- Host Module (a.k.a. Routing Engine) slot
    jnxM160SlotPCG            OBJECT IDENTIFIER ::= { jnxSlotM160 4 }
                              -- PFE Clock Generator slot
    jnxM160SlotPower          OBJECT IDENTIFIER ::= { jnxSlotM160 5 }
    jnxM160SlotFan            OBJECT IDENTIFIER ::= { jnxSlotM160 6 }
    jnxM160SlotMCS            OBJECT IDENTIFIER ::= { jnxSlotM160 7 }
                              -- Miscellaneous Control System slot
    jnxM160SlotFPM           OBJECT IDENTIFIER ::= { jnxSlotM160 8 }
                              -- Front Panel Module
    jnxM160SlotCIP            OBJECT IDENTIFIER ::= { jnxSlotM160 9 }
                              -- Connector Interface Panel

  jnxSlotM10  OBJECT IDENTIFIER ::= { jnxSlot 4 }

    jnxM10SlotFPC           OBJECT IDENTIFIER ::= { jnxSlotM10 1 }
          -                 -- Flexible Port Concentrator slot
    jnxM10SlotFEB           OBJECT IDENTIFIER ::= { jnxSlotM10 2 }
                            -- Forwarding Engine Board slot
    jnxM10SlotRE            OBJECT IDENTIFIER ::= { jnxSlotM10 3 }
                            -- Routing Engine slot
    jnxM10SlotPower         OBJECT IDENTIFIER ::= { jnxSlotM10 4 }
    jnxM10SlotFan           OBJECT IDENTIFIER ::= { jnxSlotM10 5 }
```

```
  jnxSlotM5  OBJECT IDENTIFIER ::= { jnxSlot 5 }

    jnxM5SlotFPC        OBJECT IDENTIFIER ::= { jnxSlotM5 1 }
                        -- Flexible Port Concentrator slot
    jnxM5SlotFEB        OBJECT IDENTIFIER ::= { jnxSlotM5 2 }
                        -- Forwarding Engine Board slot
    jnxM5SlotRE         OBJECT IDENTIFIER ::= { jnxSlotM5 3 }
                        -- Routing Engine slot
    jnxM5SlotPower      OBJECT IDENTIFIER ::= { jnxSlotM5 4 }
    jnxM5SlotFan        OBJECT IDENTIFIER ::= { jnxSlotM5 5 }


-- Media Card Space, for holding Port Interface Card (PIC)

jnxMediaCardSpace   OBJECT IDENTIFIER ::= { jnxClassContainers 3 }

  jnxMediaCardSpaceM40    OBJECT IDENTIFIER ::= { jnxMediaCardSpace 1 }
    jnxMediaCardSpacePIC       OBJECT IDENTIFIER ::= { jnxMediaCardSpaceM40 1 }

  jnxMediaCardSpaceM20    OBJECT IDENTIFIER ::= { jnxMediaCardSpace 2 }
    jnxM20MediaCardSpacePIC  OBJECT IDENTIFIER ::= { jnxMediaCardSpaceM20 1 }

  jnxMediaCardSpaceM160  OBJECT IDENTIFIER ::= { jnxMediaCardSpace 3 }
    jnxM160MediaCardSpacePICOBJECT IDENTIFIER ::= { jnxMediaCardSpaceM160 1 }

  jnxMediaCardSpaceM10    OBJECT IDENTIFIER ::= { jnxMediaCardSpace 4 }
    jnxM10MediaCardSpacePIC OBJECT IDENTIFIER ::= { jnxMediaCardSpaceM10 1 }

  jnxMediaCardSpaceM5      OBJECT IDENTIFIER ::= { jnxMediaCardSpace 5 }
    jnxM5MediaCardSpacePIC   OBJECT IDENTIFIER ::= { jnxMediaCardSpaceM5 1 }

-- Abstract Submodule Space, for holding other submodules

jnxSubSpace         OBJECT IDENTIFIER ::= { jnxClassContainers 4 }

   jnxSubSpaceM160      OBJECT IDENTIFIER ::= { jnxSubSpace 1 }
     jnxM160SubSpaceSFM    OBJECT IDENTIFIER ::= { jnxSubSpaceM160 1 }


--
-- Contents
--

-- Backplane/Midplane

jnxBackplane     OBJECT IDENTIFIER ::= { jnxClassContents 1 }

  jnxBackplaneM40      OBJECT IDENTIFIER ::= { jnxBackplane 1 }
  jnxBackplaneM20      OBJECT IDENTIFIER ::= { jnxBackplane 2 }
  jnxMidplaneM160      OBJECT IDENTIFIER ::= { jnxBackplane 3 }
  jnxMidplaneM10       OBJECT IDENTIFIER ::= { jnxBackplane 4 }
  jnxMidplaneM5        OBJECT IDENTIFIER ::= { jnxBackplane 5 }
```

```
-- Modules

jnxModule    OBJECT IDENTIFIER ::= { jnxClassContents 2 }

  jnxModuleM40          OBJECT IDENTIFIER ::= { jnxModule 1 }

    jnxModuleSCB                    OBJECT IDENTIFIER ::= { jnxModuleM40 1 }

    jnxModuleFPC                    OBJECT IDENTIFIER ::= { jnxModuleM40 2 }
      jnxCommonFPC                      OBJECT IDENTIFIER ::= { jnxModuleFPC 1 }
      jnxOc48FPC                        OBJECT IDENTIFIER ::= { jnxModuleFPC 2 }

    jnxModuleHostCtlr               OBJECT IDENTIFIER ::= { jnxModuleM40 3 }
      jnxHostCtlrMaxi                   OBJECT IDENTIFIER ::= { jnxModuleHostCtlr 1 }
      jnxHostCtlrMini                   OBJECT IDENTIFIER ::= { jnxModuleHostCtlr 2 }

    jnxModulePowerSupply            OBJECT IDENTIFIER ::= { jnxModuleM40 4 }
      jnxPowerSupplyAC                  OBJECT IDENTIFIER ::= { jnxModulePowerSupply 1 }
      jnxPowerSupplyDC                  OBJECT IDENTIFIER ::= { jnxModulePowerSupply 2 }

    jnxModuleCooling                OBJECT IDENTIFIER ::= { jnxModuleM40 5 }
      jnxCoolingImpeller                OBJECT IDENTIFIER ::= { jnxModuleCooling 1 }
      jnxCoolingFan                     OBJECT IDENTIFIER ::= { jnxModuleCooling 2 }

    jnxModuleFrontPanelDisplay      OBJECT IDENTIFIER ::= { jnxModuleM40 6 }

    jnxModuleRoutingEngine          OBJECT IDENTIFIER ::= { jnxModuleM40 7 }

  jnxModuleM20          OBJECT IDENTIFIER ::= { jnxModule 2 }

    jnxM20FPC                       OBJECT IDENTIFIER ::= { jnxModuleM20 1 }
                                    -- Flexible Port Concentrator
    jnxM20SSB                       OBJECT IDENTIFIER ::= { jnxModuleM20 2 }
                                    -- System Switch Board
    jnxM20RE                        OBJECT IDENTIFIER ::= { jnxModuleM20 3 }
                                    -- Routing Engine
    jnxM20Power                     OBJECT IDENTIFIER ::= { jnxModuleM20 4 }
      jnxM20PowerAC                     OBJECT IDENTIFIER ::= { jnxM20Power 1 }
      jnxM20PowerDC                     OBJECT IDENTIFIER ::= { jnxM20Power 2 }
    jnxM20Fan                       OBJECT IDENTIFIER ::= { jnxModuleM20 5 }
    jnxM20FrontPanel                OBJECT IDENTIFIER ::= { jnxModuleM20 6 }

  jnxModuleM160         OBJECT IDENTIFIER ::= { jnxModule 3 }

    jnxM160FPC                      OBJECT IDENTIFIER ::= { jnxModuleM160 1 }
                                    -- Flexible Port Concentrator
    jnxM160SFM                      OBJECT IDENTIFIER ::= { jnxModuleM160 2 }
                                    -- Switching & Forwarding Module
    jnxM160HM                       OBJECT IDENTIFIER ::= { jnxModuleM160 3 }
                                    -- Host Module (a.k.a. Routing Engine)
    jnxM160PCG                      OBJECT IDENTIFIER ::= { jnxModuleM160 4 }
                                    -- PFE Clock Generator
    jnxM160Power                    OBJECT IDENTIFIER ::= { jnxModuleM160 5 }
    jnxM160Fan                      OBJECT IDENTIFIER ::= { jnxModuleM160 6 }
    jnxM160MCS                      OBJECT IDENTIFIER ::= { jnxModuleM160 7 }
          -                         -- Miscellaneous Control System
    jnxM160FPM                      OBJECT IDENTIFIER ::= { jnxModuleM160 8 }
                                     -- Front Panel Module
    jnxM160CIP                      OBJECT IDENTIFIER ::= { jnxModuleM160 9 }
                                    -- Connector Interface Panel
```

```
 jnxModuleM10          OBJECT IDENTIFIER ::= { jnxModule 4 }

   jnxM10FPC                    OBJECT IDENTIFIER ::= { jnxModuleM10 1 }
                                -- Flexible Port Concentrator
   jnxM10FEB                    OBJECT IDENTIFIER ::= { jnxModuleM10 2 }
                                -- Forwarding Engine Board
   jnxM10RE                     OBJECT IDENTIFIER ::= { jnxModuleM10 3 }
                                -- Routing Engine
   jnxM10Power                  OBJECT IDENTIFIER ::= { jnxModuleM10 4 }
     jnxM10PowerAC                 OBJECT IDENTIFIER ::= { jnxM10Power 1 }
     jnxM10PowerDC                 OBJECT IDENTIFIER ::= { jnxM10Power 2 }
   jnxM10Fan                    OBJECT IDENTIFIER ::= { jnxModuleM10 5 }

 jnxModuleM5           OBJECT IDENTIFIER ::= { jnxModule 5 }

   jnxM5FPC                     OBJECT IDENTIFIER ::= { jnxModuleM5 1 }
                                -- Flexible Port Concentrator
   jnxM5FEB                     OBJECT IDENTIFIER ::= { jnxModuleM5 2 }
                                -- Forwarding Engine Board
   jnxM5RE                      OBJECT IDENTIFIER ::= { jnxModuleM5 3 }
                                -- Routing Engine
   jnxM5Power                   OBJECT IDENTIFIER ::= { jnxModuleM5 4 }
     jnxM5PowerAC                  OBJECT IDENTIFIER ::= { jnxM5Power 1 }
     jnxM5PowerDC                  OBJECT IDENTIFIER ::= { jnxM5Power 2 }
   jnxM5Fan                     OBJECT IDENTIFIER ::= { jnxModuleM5 5 }


-- Submodules

jnxSubmodule      OBJECT IDENTIFIER ::= { jnxClassContents 3 }

  jnxSubmoduleM40OBJECT IDENTIFIER ::= { jnxSubmodule 1 }

--  ::= { jnxSubmoduleM40 1 }This OID is obsolete.

    jnxM40PIC0  OBJECT IDENTIFIER ::= { jnxSubmoduleM40 2 }
          -- This is the quad-height PIC which takes
          -- up the whole FPC slot of M40.

      jnxM40SonetOc48     OBJECT IDENTIFIER ::= { jnxM40PIC0 1 }

    jnxM40PIC  OBJECT IDENTIFIER ::= { jnxSubmoduleM40 3 }
          -- This is the regular PIC of M40.

      jnxM40QuadSonetOc3  OBJECT IDENTIFIER ::= { jnxM40PIC 1 }
      jnxM40SonetOc12     OBJECT IDENTIFIER ::= { jnxM40PIC 2 }
      jnxM40GigEther      OBJECT IDENTIFIER ::= { jnxM40PIC 3 }
      jnxM40QuadT3        OBJECT IDENTIFIER ::= { jnxM40PIC 4 }
      jnxM40QuadE3        OBJECT IDENTIFIER ::= { jnxM40PIC 5 }
      jnxM40DualAtmOc3    OBJECT IDENTIFIER ::= { jnxM40PIC 6 }
      jnxM40AtmOc12       OBJECT IDENTIFIER ::= { jnxM40PIC 7 }
      jnxM40Tunnel        OBJECT IDENTIFIER ::= { jnxM40PIC 8 }
      jnxM40ChOc12toDs3   OBJECT IDENTIFIER ::= { jnxM40PIC 9 }
      jnxM40QuadEther     OBJECT IDENTIFIER ::= { jnxM40PIC 10 }
      jnxM40QuadE1        OBJECT IDENTIFIER ::= { jnxM40PIC 11 }
      jnxM40QuadT1        OBJECT IDENTIFIER ::= { jnxM40PIC 12 }
      jnxM40SonetOc48Sr   OBJECT IDENTIFIER ::= { jnxM40PIC 13 }
      jnxM40QuadChT3      OBJECT IDENTIFIER ::= { jnxM40PIC 14 }
```

```
jnxSubmoduleM20OBJECT IDENTIFIER ::= { jnxSubmodule 2 }

   jnxM20PIC0  OBJECT IDENTIFIER ::= { jnxSubmoduleM20 1 }
         -- This is the quad-height PIC which takes
         -- up the whole FPC slot of M20.

     jnxM20SonetOc48     OBJECT IDENTIFIER ::= { jnxM20PIC0 1 }

   jnxM20PIC  OBJECT IDENTIFIER ::= { jnxSubmoduleM20 2 }
         -- This is the regular PIC of M20.

     jnxM20QuadSonetOc3  OBJECT IDENTIFIER ::= { jnxM20PIC 1 }
     jnxM20SonetOc12     OBJECT IDENTIFIER ::= { jnxM20PIC 2 }
     jnxM20GigEther      OBJECT IDENTIFIER ::= { jnxM20PIC 3 }
     jnxM20QuadT3        OBJECT IDENTIFIER ::= { jnxM20PIC 4 }
     jnxM20QuadE3        OBJECT IDENTIFIER ::= { jnxM20PIC 5 }
     jnxM20DualAtmOc3    OBJECT IDENTIFIER ::= { jnxM20PIC 6 }
     jnxM20AtmOc12       OBJECT IDENTIFIER ::= { jnxM20PIC 7 }
     jnxM20Tunnel        OBJECT IDENTIFIER ::= { jnxM20PIC 8 }
     jnxM20ChOc12toDs3   OBJECT IDENTIFIER ::= { jnxM20PIC 9 }
     jnxM20QuadEther     OBJECT IDENTIFIER ::= { jnxM20PIC 10 }
     jnxM20QuadE1        OBJECT IDENTIFIER ::= { jnxM20PIC 11 }
     jnxM20QuadT1        OBJECT IDENTIFIER ::= { jnxM20PIC 12 }
     jnxM20SonetOc48Sr   OBJECT IDENTIFIER ::= { jnxM20PIC 13 }
     jnxM20QuadChT3      OBJECT IDENTIFIER ::= { jnxM20PIC 14 }


  jnxSubmoduleM160OBJECT IDENTIFIER ::= { jnxSubmodule 3 }

--  ::= { jnxSubmoduleM160 1 }This OID is obsolete.

   jnxM160SubSFM    OBJECT IDENTIFIER ::= { jnxSubmoduleM160 2 }
     jnxM160SPP                 OBJECT IDENTIFIER ::= { jnxM160SubSFM 1 }
                                -- Switch Plane Processor
     jnxM160SPR                 OBJECT IDENTIFIER ::= { jnxM160SubSFM 2 }
                                -- Switch Plane Router

   jnxM160SubFPM          OBJECT IDENTIFIER ::= { jnxSubmoduleM160 3 }
     jnxM160FPMCMB              OBJECT IDENTIFIER ::= { jnxM160SubFPM 1 }
                                -- CMB part of FPM
   jnxM160FPMDisplay      OBJECT IDENTIFIER ::= { jnxM160SubFPM 2 }
                                -- Display part of FPM
   jnxM160PIC0            OBJECT IDENTIFIER ::= { jnxSubmoduleM160 4 }
                                -- This is the quad-height PIC which takes
                                -- up the whole FPC slot of M160.

     jnxM160SonetOc192Sr        OBJECT IDENTIFIER ::= { jnxM160PIC0 1 }

   jnxM160PIC1            OBJECT IDENTIFIER ::= { jnxSubmoduleM160 5 }
                                 -- This is FPC type 1 of PIC.

     jnxM160QuadSonetOc3        OBJECT IDENTIFIER ::= { jnxM160PIC1 1 }
     jnxM160SonetOc12           OBJECT IDENTIFIER ::= { jnxM160PIC1 2 }
     jnxM160GigEther            OBJECT IDENTIFIER ::= { jnxM160PIC1 3 }
     jnxM160QuadT3              OBJECT IDENTIFIER ::= { jnxM160PIC1 4 }
     jnxM160QuadE3              OBJECT IDENTIFIER ::= { jnxM160PIC1 5 }
     jnxM160DualAtmOc3          OBJECT IDENTIFIER ::= { jnxM160PIC1 6 }
     jnxM160AtmOc12             OBJECT IDENTIFIER ::= { jnxM160PIC1 7 }
     jnxM160ChOc12toDs3         OBJECT IDENTIFIER ::= { jnxM160PIC1 8 }
     jnxM160QuadEther           OBJECT IDENTIFIER ::= { jnxM160PIC1 9 }
     jnxM160QuadE1              OBJECT IDENTIFIER ::= { jnxM160PIC1 10 }
     jnxM160QuadT1              OBJECT IDENTIFIER ::= { jnxM160PIC1 11 }
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    jnxM160QuadChT3          OBJECT IDENTIFIER ::= { jnxM160PIC1 12}

jnxM160PIC2              OBJECT IDENTIFIER ::= { jnxSubmoduleM160 6 }
                             -- This is FPC type 2 of PIC.

    jnxM160SonetOc48Sr       OBJECT IDENTIFIER ::= { jnxM160PIC2 1 }
    jnxM160Tunnel            OBJECT IDENTIFIER ::= { jnxM160PIC2 2 }
    jnxM160DualGigEther      OBJECT IDENTIFIER ::= { jnxM160PIC2 3 }
    jnxM160QuadSonetOc12     OBJECT IDENTIFIER ::= { jnxM160PIC2 4 }


 jnxSubmoduleM10       OBJECT IDENTIFIER ::= { jnxSubmodule 4 }

   jnxM10PIC             OBJECT IDENTIFIER ::= { jnxSubmoduleM10 1 }

    jnxM10QuadSonetOc3       OBJECT IDENTIFIER ::= { jnxM10PIC 1 }
    jnxM10SonetOc12          OBJECT IDENTIFIER ::= { jnxM10PIC 2 }
    jnxM10GigEther           OBJECT IDENTIFIER ::= { jnxM10PIC 3 }
    jnxM10QuadT3             OBJECT IDENTIFIER ::= { jnxM10PIC 4 }
    jnxM10QuadE3             OBJECT IDENTIFIER ::= { jnxM10PIC 5 }
    jnxM10DualAtmOc3         OBJECT IDENTIFIER ::= { jnxM10PIC 6 }
    jnxM10AtmOc12            OBJECT IDENTIFIER ::= { jnxM10PIC 7 }
    jnxM10Tunnel             OBJECT IDENTIFIER ::= { jnxM10PIC 8 }
    jnxM10ChOc12toDs3        OBJECT IDENTIFIER ::= { jnxM10PIC 9 }
    jnxM10QuadEther          OBJECT IDENTIFIER ::= { jnxM10PIC 10 }
    jnxM10QuadE1             OBJECT IDENTIFIER ::= { jnxM10PIC 11 }
    jnxM10QuadT1             OBJECT IDENTIFIER ::= { jnxM10PIC 12 }
    jnxM10SonetOc48Sr        OBJECT IDENTIFIER ::= { jnxM10PIC 13 }
    jnxM10QuadChT3           OBJECT IDENTIFIER ::= { jnxM10PIC 14 }


 jnxSubmoduleM5        OBJECT IDENTIFIER ::= { jnxSubmodule 5 }

   jnxM5PIC              OBJECT IDENTIFIER ::= { jnxSubmoduleM5 1 }

    jnxM5QuadSonetOc3        OBJECT IDENTIFIER ::= { jnxM5PIC 1 }
    jnxM5SonetOc12           OBJECT IDENTIFIER ::= { jnxM5PIC 2 }
    jnxM5GigEther            OBJECT IDENTIFIER ::= { jnxM5PIC 3 }
    jnxM5QuadT3              OBJECT IDENTIFIER ::= { jnxM5PIC 4 }
    jnxM5QuadE3              OBJECT IDENTIFIER ::= { jnxM5PIC 5 }
    jnxM5DualAtmOc3          OBJECT IDENTIFIER ::= { jnxM5PIC 6 }
    jnxM5AtmOc12             OBJECT IDENTIFIER ::= { jnxM5PIC 7 }
    jnxM5Tunnel              OBJECT IDENTIFIER ::= { jnxM5PIC 8 }
    jnxM5ChOc12toDs3         OBJECT IDENTIFIER ::= { jnxM5PIC 9 }
    jnxM5QuadEther           OBJECT IDENTIFIER ::= { jnxM5PIC 10 }
    jnxM5QuadE1              OBJECT IDENTIFIER ::= { jnxM5PIC 11 }
    jnxM5QuadT1              OBJECT IDENTIFIER ::= { jnxM5PIC 12 }
    jnxM5SonetOc48Sr         OBJECT IDENTIFIER ::= { jnxM5PIC 13 }
    jnxM5QuadChT3            OBJECT IDENTIFIER ::= { jnxM5PIC 14 }


-- Miscellaneous Components

jnxMiscComponent      OBJECT IDENTIFIER ::= { jnxClassContents 4 }

   jnxTempSensor         OBJECT IDENTIFIER ::= { jnxMiscComponent 1 }

-- Status Source

jnxStatusSource       OBJECT IDENTIFIER ::= { jnxClassStatus 1 }
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```
  jnxStatusSourceM40        OBJECT IDENTIFIER ::= { jnxStatusSource 1 }

    jnxChassisSlotLED             OBJECT IDENTIFIER ::= { jnxStatusSourceM40 1 }
    jnxChassisAlarmLED            OBJECT IDENTIFIER ::= { jnxStatusSourceM40 2 }
    jnxHostCtlrLED                OBJECT IDENTIFIER ::= { jnxStatusSourceM40 3 }
    jnxChassisTempSensor          OBJECT IDENTIFIER ::= { jnxStatusSourceM40 4 }
    jnxRoutingEngineLED           OBJECT IDENTIFIER ::= { jnxStatusSourceM40 5 }

--
-- Juniper Box Anatomy MIB
--

jnxBoxAnatomy OBJECT IDENTIFIER ::= { jnxMibs 1 }

-- Top level objects

    jnxBoxClass OBJECT-TYPE
    SYNTAX          OBJECT IDENTIFIER
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "The class of the box, indicating which product line the box is about, for example, 'Internet
        Router'."
    ::= { jnxBoxAnatomy 1 }

    jnxBoxDescr OBJECT-TYPE
    SYNTAX          DisplayString (SIZE (0..255))
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "The name, model, or detailed description of the box, indicating which product the box is about,
        for example, ‘M40'."
    ::= { jnxBoxAnatomy 2 }

    jnxBoxSerialNo OBJECT-TYPE
    SYNTAX          DisplayString (SIZE (0..255))
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "The serial number of this subject, blank if unknown or unavailable."
    ::= { jnxBoxAnatomy 3 }

    jnxBoxRevision OBJECT-TYPE
    SYNTAX          DisplayString (SIZE (0..255))
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "The revision of this subject, blank if unknown or unavailable."
    ::= { jnxBoxAnatomy 4 }

    jnxBoxInstalled OBJECT-TYPE
    SYNTAX          TimeStamp
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "The value of sysUpTime when the subject was last installed, up-and-running. Zero if unknown or
        already up-and-running when the agent was up."
    ::= { jnxBoxAnatomy 5 }
```

```
--
-- Box Containers Table
--

    jnxContainersTable OBJECT-TYPE
    SYNTAX          SEQUENCE OF JnxContainersEntry
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "A list of containers entries."
    ::= { jnxBoxAnatomy 6 }

    jnxContainersEntry OBJECT-TYPE
    SYNTAX          JnxContainersEntry
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "An entry of containers table."
    INDEX { jnxContainersIndex }
    ::= { jnxContainersTable 1 }

    JnxContainersEntry ::= SEQUENCE {
        jnxContainersIndex      Integer32,
        jnxContainersView       Integer32,
        jnxContainersLevel      Integer32,
        jnxContainersWithin     Integer32,
        jnxContainersType       OBJECT IDENTIFIER,
        jnxContainersDescr      DisplayString,
        jnxContainersCount      Integer32
    }

    jnxContainersIndex OBJECT-TYPE
    SYNTAX          Integer32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "The index for this entry."
    ::= { jnxContainersEntry 1 }

    jnxContainersView OBJECT-TYPE
    SYNTAX          Integer32 (1..63)
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "The view(s) from which the specific container appears.

        This variable indicates that the specific container is embedded and accessible from the
        corresponding view(s).

        The value is a bit map represented as a sum. If multiple bits are set, the specified
        container(s) are located and accessible from that set of views.

        The various values representing the bit positions and its corresponding views are:
            1   front
            2   rear
            4   top
            8   bottom
           16   leftHandSide
           32   rightHandSide
```

```
    Note 1:
    LefHandSide and rightHandSide are referred to based on the view from the front.

    Note 2:
    If the specified containers are scattered around various views, the numbering is according
    to the following sequence:
        front -> rear -> top -> bottom
          -> leftHandSide -> rightHandSide
    For each view plane, the numbering sequence is first from left to right, and then from up to down.

    Note 3:
    Even though the value in chassis hardware (e.g. slot number) may be labelled from 0, 1, 2, and
    up, all the indices in MIB start with 1 (not 0) according to network management convention."
::= { jnxContainersEntry 2 }

jnxContainersLevel OBJECT-TYPE
SYNTAX          Integer32
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
    "The abstraction level of the box or chassis. It is enumerated from the outside to the inside,
    from the outer layer to the inner layer. For example, top level (i.e. level 0) refers to
    chassis frame, level 1 FPC slot within chassis frame, level 2 PIC space within FPC slot."
::= { jnxContainersEntry 3 }

jnxContainersWithin OBJECT-TYPE
SYNTAX          Integer32
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
    "The index of its next higher level container housing this entry. The associated
    jnxContainersIndex in the jnxContainersTable represents its next higher level container."
::= { jnxContainersEntry 4 }

jnxContainersType OBJECT-TYPE
SYNTAX          OBJECT IDENTIFIER
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
    "The type of this container."
::= { jnxContainersEntry 5 }

jnxContainersDescr OBJECT-TYPE
SYNTAX          DisplayString (SIZE (0..255))
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
    "The name or detailed description of this subject."
::= { jnxContainersEntry 6 }

jnxContainersCount OBJECT-TYPE
SYNTAX          Integer32
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
    "The maximum number of containers of this level per container of the next higher level.
    e.g. if there are six level 2 containers in level 1 container, then jnxContainersCount for
    level 2 is six."
::= { jnxContainersEntry 7 }
```

```
--
-- Box Contents Table
--

    jnxContentsLastChange OBJECT-TYPE
    SYNTAX          TimeStamp
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "The value of sysUpTime when the box contents table last changed.  Zero if unknown or already
        existing when the agent was up."
    ::= { jnxBoxAnatomy 7 }

    jnxContentsTable OBJECT-TYPE
    SYNTAX              SEQUENCE OF JnxContentsEntry
    MAX-ACCESS          not-accessible
    STATUS              current
    DESCRIPTION
        "A list of contents entries."
    ::= { jnxBoxAnatomy 8 }

    jnxContentsEntry OBJECT-TYPE
    SYNTAX          JnxContentsEntry
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "An entry of contents table."
    INDEX           { jnxContentsContainerIndex,
                      jnxContentsL1Index,
                      jnxContentsL2Index,
                      jnxContentsL3Index }
    ::= { jnxContentsTable 1 }

    JnxContentsEntry ::= SEQUENCE {
        jnxContentsContainerIndex  Integer32,
        jnxContentsL1Index         Integer32,
        jnxContentsL2Index         Integer32,
        jnxContentsL3Index         Integer32,
        jnxContentsType            OBJECT IDENTIFIER,
        jnxContentsDescr           DisplayString,
        jnxContentsSerialNo        DisplayString,
        jnxContentsRevision        DisplayString,
        jnxContentsInstalled       TimeStamp
    }

    jnxContentsContainerIndex OBJECT-TYPE
    SYNTAX          Integer32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "The associated jnxContainersIndex in the jnxContainersTable."
    ::= { jnxContentsEntry 1 }

    jnxContentsL1Index OBJECT-TYPE
    SYNTAX          Integer32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "The level one index of the container housing this subject. Zero if unavailable or nonapplicable."
    ::= { jnxContentsEntry 2 }
```

```
jnxContentsL2Index OBJECT-TYPE
SYNTAX          Integer32
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
   "The level two index of the container housing this subject. Zero if unavailable or nonapplicable."
::= { jnxContentsEntry 3 }

jnxContentsL3Index OBJECT-TYPE
SYNTAX          Integer32
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
   "The level three index of the container housing this subject. Zero if unavailable or nonapplicable."
::= { jnxContentsEntry 4 }

jnxContentsType OBJECT-TYPE
SYNTAX          OBJECT IDENTIFIER
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
   "The type of this subject. zeroDotZero if unknown."
::= { jnxContentsEntry 5 }

jnxContentsDescr OBJECT-TYPE
SYNTAX          DisplayString (SIZE (0..255))
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
   "The name or detailed description of this subject."
::= { jnxContentsEntry 6 }

jnxContentsSerialNo OBJECT-TYPE
SYNTAX          DisplayString (SIZE (0..255))
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
   "The serial number of this subject, blank if unknown or unavailable."
::= { jnxContentsEntry 7 }

jnxContentsRevision OBJECT-TYPE
SYNTAX          DisplayString (SIZE (0..255))
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
   "The revision of this subject, blank if unknown or unavailable."
::= { jnxContentsEntry 8 }

jnxContentsInstalled OBJECT-TYPE
SYNTAX          TimeStamp
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
   "The value of sysUpTime when the subject was last installed, up-and-running. Zero if unknown
   or already up-and-running when the agent was up."
::= { jnxContentsEntry 9 }
```

```
--
-- Box LED Indicators Table
--

    jnxLEDLastChange OBJECT-TYPE
    SYNTAX          TimeStamp
    MAX-ACCESS      read-only
    STATUS          deprecated
    DESCRIPTION
        "The value of sysUpTime when the box LED table last changed. Zero if unknown or already at
        that state when the agent was up."
    ::= { jnxBoxAnatomy 9 }

    jnxLEDTable OBJECT-TYPE
    SYNTAX          SEQUENCE OF JnxLEDEntry
    MAX-ACCESS      not-accessible
    STATUS          deprecated
    DESCRIPTION
        "A list of status entries."
    ::= { jnxBoxAnatomy 10 }

    jnxLEDEntry OBJECT-TYPE
    SYNTAX          JnxLEDEntry
    MAX-ACCESS      not-accessible
    STATUS          deprecated
    DESCRIPTION
        "An entry of status table."
    INDEX           { jnxLEDAssociateTable,
                      jnxLEDAssociateIndex,
                      jnxLEDL1Index,
                      jnxLEDL2Index,
                      jnxLEDL3Index }
    ::= { jnxLEDTable 1 }

    JnxLEDEntry ::= SEQUENCE {
        jnxLEDAssociateTable    INTEGER,
        jnxLEDAssociateIndex    Integer32,
        jnxLEDL1Index           Integer32,
        jnxLEDL2Index           Integer32,
        jnxLEDL3Index           Integer32,
        jnxLEDOriginator        OBJECT IDENTIFIER,
        jnxLEDDescr             DisplayString,
        jnxLEDState             INTEGER
    }

    jnxLEDAssociateTable OBJECT-TYPE
    SYNTAX          INTEGER {
                        other(1),
                        jnxContainersTable(2),
                        jnxContentsTable(3)
                    }
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "The associated table that this entry is related."
    ::= { jnxLEDEntry 1 }
```

```
jnxLEDAssociateIndex OBJECT-TYPE
SYNTAX          Integer32
MAX-ACCESS      read-only
STATUS          deprecated
DESCRIPTION
   "The index of the associated table that this entry is related."
::= { jnxLEDEntry 2 }

jnxLEDL1Index OBJECT-TYPE
SYNTAX          Integer32
MAX-ACCESS      read-only
STATUS          deprecated
DESCRIPTION
   "The level one index of the associated table that this entry is related. Zero
   if unavailable or nonapplicable."
::= { jnxLEDEntry 3 }

jnxLEDL2Index OBJECT-TYPE
SYNTAX          Integer32
MAX-ACCESS      read-only
STATUS          deprecated
DESCRIPTION
   "The level two index of the associated table that this entry is related.  Zero
   if unavailable or nonapplicable."
::= { jnxLEDEntry 4 }

jnxLEDL3Index OBJECT-TYPE
SYNTAX          Integer32
MAX-ACCESS      read-only
STATUS          deprecated
DESCRIPTION
   "The level three index of the associated table that this entry is related.  Zero
   if unavailable or nonapplicable."
::= { jnxLEDEntry 5 }

jnxLEDOriginator OBJECT-TYPE
SYNTAX          OBJECT IDENTIFIER
MAX-ACCESS      read-only
STATUS          deprecated
DESCRIPTION
   "The originator of the this entry."
::= { jnxLEDEntry 6 }

jnxLEDDescr OBJECT-TYPE
SYNTAX          DisplayString (SIZE (0..255))
MAX-ACCESS      read-only
STATUS          deprecated
DESCRIPTION
   "The name or detailed description of this subject."
::= { jnxLEDEntry 7 }
```

```
    jnxLEDState OBJECT-TYPE
    SYNTAX          INTEGER {
                        other(1),     -- unknown or unavailable
                        green(2),     -- ok, good, normally working,
                                      -- or on-line as a standby backup if
                                      -- there is an active primary
                        yellow(3),    -- alarm, warning, marginally working
                        red(4),       -- alert, failed, not working
                        blue(5),      -- ok, on-line as an active primary
                        amber(6)      -- alarm, off-line, not running
                    }
    MAX-ACCESS      read-only
    STATUS          deprecated
    DESCRIPTION
        "The state of the LED indicator."
    ::= { jnxLEDEntry 8 }

--
-- Box Filled Status Table
--
-- This table show the empty/filled status of the container in the
-- box containers table.
--

    jnxFilledLastChange OBJECT-TYPE
    SYNTAX          TimeStamp
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "The value of sysUpTime when the box filled status table last changed.  Zero if unknown or
        already at that state when the agent was up."
    ::= { jnxBoxAnatomy 11 }

    jnxFilledTable OBJECT-TYPE
    SYNTAX          SEQUENCE OF JnxFilledEntry
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "A list of filled status entries."
    ::= { jnxBoxAnatomy 12 }

    jnxFilledEntry OBJECT-TYPE
    SYNTAX          JnxFilledEntry
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "An entry of filled status table."
    INDEX           { jnxFilledContainerIndex,
                      jnxFilledL1Index,
                      jnxFilledL2Index,
                      jnxFilledL3Index }
    ::= { jnxFilledTable 1 }

    JnxFilledEntry ::= SEQUENCE {
        jnxFilledContainerIndex     Integer32,
        jnxFilledL1Index            Integer32,
        jnxFilledL2Index            Integer32,
        jnxFilledL3Index            Integer32,
        jnxFilledDescr              DisplayString,
        jnxFilledState              INTEGER
    }
```

```
    jnxFilledContainerIndex OBJECT-TYPE
    SYNTAX          Integer32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
       "The associated jnxContainersIndex in the jnxContainersTable."
    ::= { jnxFilledEntry 1 }

    jnxFilledL1Index OBJECT-TYPE
    SYNTAX          Integer32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
       "The level one index of the container housing this subject. Zero if unavailable or nonapplicable."
    ::= { jnxFilledEntry 2 }

    jnxFilledL2Index OBJECT-TYPE
    SYNTAX          Integer32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
       "The level two index of the container housing this subject. Zero if unavailable or nonapplicable."
    ::= { jnxFilledEntry 3 }

    jnxFilledL3Index OBJECT-TYPE
    SYNTAX          Integer32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
       "The level three index of the container housing this subject. Zero if unavailable or nonapplicable."
    ::= { jnxFilledEntry 4 }

    jnxFilledDescr OBJECT-TYPE
    SYNTAX          DisplayString (SIZE (0..255))
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
       "The name or detailed description of this subject."
    ::= { jnxFilledEntry 5 }

    jnxFilledState OBJECT-TYPE
    SYNTAX          INTEGER {
                       unknown(1),
                       empty(2),
                       filled(3)
                    }
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
       "The filled state of this subject."
    ::= { jnxFilledEntry 6 }

--
-- Box Operating Status Table
--
-- This table reveals the operating status of some subjects
-- of interest in the box contents table.
--
```

```
jnxOperatingTable OBJECT-TYPE
SYNTAX          SEQUENCE OF JnxOperatingEntry
MAX-ACCESS      not-accessible
STATUS          current
DESCRIPTION
   "A list of operating status entries."
::= { jnxBoxAnatomy 13 }

jnxOperatingEntry OBJECT-TYPE
SYNTAX          JnxOperatingEntry
MAX-ACCESS      not-accessible
STATUS          current
DESCRIPTION
   "An entry of operating status table."
INDEX           { jnxOperatingContentsIndex,
                  jnxOperatingL1Index,
                  jnxOperatingL2Index,
                  jnxOperatingL3Index }
::= { jnxOperatingTable 1 }

JnxOperatingEntry ::= SEQUENCE {
   jnxOperatingContentsIndex  Integer32,
   jnxOperatingL1Index        Integer32,
   jnxOperatingL2Index        Integer32,
   jnxOperatingL3Index        Integer32,
   jnxOperatingDescr          DisplayString,
   jnxOperatingState          INTEGER,
   jnxOperatingTemp           Gauge32,
   jnxOperatingCPU            Gauge32,
   jnxOperatingISR            Gauge32,
   jnxOperatingDRAMSize       Integer32,
   jnxOperatingBuffer         Gauge32,
   jnxOperatingHeap           Gauge32,
   jnxOperatingUpTime         TimeInterval,
   jnxOperatingLastRestart    TimeStamp,
   jnxOperatingMemory         Integer32
}

jnxOperatingContentsIndex OBJECT-TYPE
SYNTAX          Integer32
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
   "The associated jnxContentsIndex in the jnxContentsTable."
::= { jnxOperatingEntry 1 }

jnxOperatingL1Index OBJECT-TYPE
SYNTAX          Integer32
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
   "The level one index associated with this subject.  Zero if unavailable or nonapplicable."
::= { jnxOperatingEntry 2 }

jnxOperatingL2Index OBJECT-TYPE
SYNTAX          Integer32
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
   "The level two index associated with this subject.  Zero if unavailable or nonapplicable."
::= { jnxOperatingEntry 3 }
```

```
jnxOperatingL3Index OBJECT-TYPE
SYNTAX          Integer32
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
   "The level three index associated with this subject.  Zero if unavailable or nonapplicable."
::= { jnxOperatingEntry 4 }

jnxOperatingDescr OBJECT-TYPE
SYNTAX          DisplayString (SIZE (0..255))
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
   "The name or detailed description of this subject."
::= { jnxOperatingEntry 5 }

jnxOperatingState OBJECT-TYPE
SYNTAX          INTEGER {
                   unknown(1),
                   running(2),    -- up and running,
                                  -- as a active primary
                   ready(3),      -- ready to run, not running yet
                   reset(4),      -- held in reset, not ready yet
                   runningAtFullSpeed(5),
                                  -- valid for fans only
                   down(6),       -- down or off, for power supply
                   standby(7)     -- running as a standby backup
                }
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
   "The operating state of this subject."
::= { jnxOperatingEntry 6 }

jnxOperatingTemp OBJECT-TYPE
SYNTAX          Gauge32
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
   "The temperature in Celsius (degrees C) of this subject.  Zero if unavailable or nonapplicable."
::= { jnxOperatingEntry 7 }

jnxOperatingCPU OBJECT-TYPE
SYNTAX          Gauge32
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
   "The CPU utilization in percentage of this subject.  Zero if unavailable or nonapplicable."
::= { jnxOperatingEntry 8 }

jnxOperatingISR OBJECT-TYPE
SYNTAX          Gauge32
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION
   "The CPU utilization in percentage of this subject spending in interrupt service routine (ISR).
   Zero if unavailable or nonapplicable."
::= { jnxOperatingEntry 9 }
```

```
    jnxOperatingDRAMSize OBJECT-TYPE
    SYNTAX          Integer32
    MAX-ACCESS      read-only
    STATUS          deprecated
    DESCRIPTION
       "The DRAM size in bytes of this subject. Zero if unavailable or nonapplicable."
    ::= { jnxOperatingEntry 10 }

    jnxOperatingBuffer OBJECT-TYPE
    SYNTAX          Gauge32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
       "The buffer pool utilization in percentage of this subject. Zero if unavailable or nonapplicable."
    ::= { jnxOperatingEntry 11 }

    jnxOperatingHeap OBJECT-TYPE
    SYNTAX          Gauge32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
       "The heap utilization in percentage of this subject. Zero if unavailable or nonapplicable."
    ::= { jnxOperatingEntry 12 }

    jnxOperatingUpTime OBJECT-TYPE
    SYNTAX          TimeInterval
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
       "The time interval in 10-millisecond period that this subject has been up and running.
       Zero if unavailable or nonapplicable."
    ::= { jnxOperatingEntry 13 }

    jnxOperatingLastRestart OBJECT-TYPE
    SYNTAX          TimeStamp
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
       "The value of sysUpTime when this subject last restarted. Zero if unavailable or nonapplicable."
    ::= { jnxOperatingEntry 14 }

    jnxOperatingMemory OBJECT-TYPE
    SYNTAX          Integer32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
       "The installed memory size in Megabytes of this subject. Zero if unavailable or nonapplicable."
    ::= { jnxOperatingEntry 15 }


--
-- definition of chassis related traps
--

    jnxChassisTraps OBJECT IDENTIFIER ::= { jnxTraps 1 }

    jnxPowerSupplyFailure NOTIFICATION-TYPE
    OBJECTS     { jnxContentsContainerIndex,
                  jnxContentsL1Index,
                  jnxContentsL2Index,
                  jnxContentsL3Index,
                  jnxContentsDescr }
    STATUS      current
```

```
    DESCRIPTION
        "A jnxPowerSupplyFailure trap signifies that the SNMPv2 entity, acting in an agent role, has
        detected that the specified power supply in the chassis has been in the failure (bad DC output)
        condition."
    ::= { jnxChassisTraps 1 }

    jnxFanFailure NOTIFICATION-TYPE
    OBJECTS     { jnxContentsContainerIndex,
                  jnxContentsL1Index,
                  jnxContentsL2Index,
                  jnxContentsL3Index,
                  jnxContentsDescr }
    STATUS      current
    DESCRIPTION
        "A jnxFanFailure trap signifies that the SNMPv2 entity, acting in an agent role, has detected
        that the specified cooling fan or impeller in the chassis has been in the failure (not spinning)
        condition."
    ::= { jnxChassisTraps 2 }

    jnxOverTemperature NOTIFICATION-TYPE
    OBJECTS     { jnxContentsContainerIndex,
                  jnxContentsL1Index,
                  jnxContentsL2Index,
                  jnxContentsL3Index,
                  jnxContentsDescr }
    STATUS      current
    DESCRIPTION
        "A jnxOverTemperature trap signifies that the SNMPv2 entity, acting in an agent role, has
        detected that the specified hardware component in the chassis has experienced over temperature
        condition."
    ::= { jnxChassisTraps 3 }

END
```

MPLS MIB

The JUNOS MPLS MIB provides support for the JUNOS implementation of MPLS.

For a downloadable version of this MIB, see
www.juniper.net/techpubs/software/junos42/swconfig-install42/html/mib-mpls.txt.

```
MPLS-MIB DEFINITIONS ::= BEGIN
IMPORTS
    MODULE-IDENTITY, OBJECT-TYPE, NOTIFICATION-TYPE,
    enterprises, Integer32, Counter32, Counter64, IpAddress
        FROM SNMPv2-SMI
    DisplayString, TimeStamp
        FROM SNMPv2-TC;

mpls MODULE-IDENTITY
    LAST-UPDATED "9907210000Z"
    ORGANIZATION "Juniper Networks, Inc."
    CONTACT-INFO
        " Kireeti Kompella
        Postal: Juniper Networks, Inc.
        1194 N. Mathilda Avenue
        Sunnyvale, CA 94089
        Tel: +1 408 745 2000
        E-mail: kireeti@juniper.net"
```

```
    DESCRIPTION
        "The MIB module for Multi-Protocol Label Switched Paths."
    ::= { jnxMibs 2 }

-- For now, the MPLS MIB is an enterprise (Juniper Networks, Inc.) private MIB.
-- Until we have the mechanism in place to "include" the definition of the juniperMIB, we replicate it
-- here.  Note that anyone updating jnxMibs must reserve entry 2 for the MPLS MIB!

juniperMIB OBJECT IDENTIFIER ::= { enterprises 2636 }
jnxMibs    OBJECT IDENTIFIER ::= { juniperMIB 3 }
mplsInfo   OBJECT IDENTIFIER ::= { mpls 1 }
mplsVersion OBJECT-TYPE
    SYNTAX          Integer32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION     "MPLS version number."
    ::= { mplsInfo 1 }
mplsSignalingProto OBJECT-TYPE
    SYNTAX    INTEGER {
                  none(1),
                  other(2),
                  rsvp(3),
                  ldp(4)
                  }
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION   "MPLS signaling protocol."
    ::= { mplsInfo 2 }
mplsConfiguredLsps OBJECT-TYPE
    SYNTAX          Integer32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION     "Number of configured LSPs."
    ::= { mplsInfo 3 }
mplsActiveLsps OBJECT-TYPE
    SYNTAX          Integer32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION     "Number of active LSPs."
    ::= { mplsInfo 4 }
mplsTEInfo OBJECT IDENTIFIER ::= { mpls 2 }
mplsTEDistProtocol OBJECT-TYPE
    SYNTAX          INTEGER {
                        none(1),
                        isis(2),
                        ospf(3),
                        isis-ospf(4)
                    }
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "IGP used to distribute Traffic Engineering information and topology to each LSR for the
        purpose of automatic path computation."
    ::= { mplsTEInfo 1 }
mplsAdminGroupList OBJECT-TYPE
    SYNTAX          SEQUENCE OF MplsAdminGroup
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "List of configured administrative groups. Administrative groups are used to label links in
        the Traffic Engineering topology in order to place constraints (include and exclude) on LSP
        paths."
    ::= { mplsTEInfo 2 }
```

```
mplsAdminGroup OBJECT-TYPE
   SYNTAX          MplsAdminGroup
   MAX-ACCESS      not-accessible
   STATUS          current
   DESCRIPTION
      "A mapping between a configured group number and its human-readable name. The group
      number should be between 0 and 31, inclusive."
   INDEX      { mplsAdminGroupNumber }
   ::= { mplsAdminGroupList 1 }
MplsAdminGroup ::=
   SEQUENCE {
      mplsAdminGroupNumber INTEGER (0..31),
      mplsAdminGroupName   DisplayString
   }
mplsAdminGroupNumber OBJECT-TYPE
   SYNTAX          INTEGER (0..31)
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION   “Index of the administrative group."
   ::= { mplsAdminGroup 1 }
mplsAdminGroupName OBJECT-TYPE
   SYNTAX          DisplayString (SIZE (0..16))
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION   "Name of the administrative group."
   ::= { mplsAdminGroup 2 }
mplsLspList OBJECT-TYPE
   SYNTAX          SEQUENCE OF MplsLspEntry
   MAX-ACCESS      not-accessible
   STATUS          current
   DESCRIPTION "List of Configured Label Switched Paths."
   ::= { mpls 3 }
mplsLspEntry OBJECT-TYPE
   SYNTAX          MplsLspEntry
   MAX-ACCESS      not-accessible
   STATUS          current
   DESCRIPTION
      "Entry containing information about a particular Label Switched Path."
   INDEX { mplsLspName }
   ::= { mplsLspList 1 }
MplsLspEntry ::=
   SEQUENCE {
      mplsLspName               DisplayString,
      mplsLspState              INTEGER,
      mplsLspOctets             Counter64,
      mplsLspPackets            Counter64,
      mplsLspAge                TimeStamp,
      mplsLspTimeUp             TimeStamp,
      mplsLspPrimaryTimeUp      TimeStamp,
      mplsLspTransitions        Counter32,
      mplsLspLastTransition     TimeStamp,
      mplsLspPathChanges        Counter32,
      mplsLspLastPathChange     TimeStamp,
      mplsLspConfiguredPaths    Integer32,
      mplsLspStandbyPaths       Integer32,
      mplsLspOperationalPaths   Integer32,
      mplsLspFrom               IpAddress,
      mplsLspTo                 IpAddress,
      mplsPathName              DisplayString,
      mplsPathType              INTEGER,
      mplsPathExplicitRoute     OCTET STRING (SIZE (0..1024)),
      mplsPathRecordRoute       OCTET STRING (SIZE (0..1024)),
      mplsPathBandwidth         Integer32,
```

```
        mplsPathCOS                 INTEGER (0..7 | 255),
        mplsPathInclude             Integer32,
        mplsPathExclude             Integer32,
        mplsPathSetupPriority       INTEGER (0..7),
        mplsPathHoldPriority        INTEGER (0..7),
        mplsPathProperties          INTEGER
    }
mplsLspName OBJECT-TYPE
    SYNTAX          DisplayString (SIZE (0..32))
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION     "Name of the Label Switched Path."
    ::= { mplsLspEntry 1 }
mplsLspState OBJECT-TYPE
    SYNTAX          INTEGER {
                    unknown(1),
                    up(2),
                    down(3)
                    }
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION     "The operational state of the LSP."
    ::= { mplsLspEntry 2 }
mplsLspOctets OBJECT-TYPE
    SYNTAX          Counter64
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "The number of octets that have been forwarded over current LSP active path. The number
        reported is not realtime, may subject to several minutes delay.  The delay is controllable by
        mpls statistics gathering interval, which by default is once every 5 minutes.  If mpls
        statistics gathering is not enabled, this number will not increment."
    ::= { mplsLspEntry 3 }
mplsLspPackets OBJECT-TYPE
    SYNTAX          Counter64
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "The number of packets that have been forwarded over current LSP active path. The
        number reported is not realtime, may subject to several minutes delay.  The delay is
        controllable by mpls statistics gathering interval, which by default is once every
        5 minutes.  If mpls statistics gathering is not enabled, this number will not increment."
    ::= { mplsLspEntry 4 }
mplsLspAge OBJECT-TYPE
    SYNTAX          TimeStamp
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "The age (i.e., time from creation till now) of this LSP in 10-millisecond periods."
    ::= { mplsLspEntry 5 }
mplsLspTimeUp OBJECT-TYPE
    SYNTAX          TimeStamp
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "The total time in 10-millisecond units that this LSP has been operational.  For example,
        the percentage up time can be determined by computing
        (mplsLspTimeUp/mplsLspAge * 100 %)."
    ::= { mplsLspEntry 6 }
```

```
mplsLspPrimaryTimeUp OBJECT-TYPE
   SYNTAX          TimeStamp
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "The total time in 10-millisecond units that this LSP's primary path has been operational.
      For example, the percentage contribution of the primary path to the operational time is
      given by (mplsLspPrimaryTimeUp/mplsLspTimeUp * 100) %."
   ::= { mplsLspEntry 7 }
mplsLspTransitions OBJECT-TYPE
   SYNTAX          Counter32
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "The number of state transitions (up -> down and down -> up) this LSP has undergone."
   ::= { mplsLspEntry 8 }
mplsLspLastTransition OBJECT-TYPE
   SYNTAX          TimeStamp
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "The time in 10-millisecond units since the last transition occurred on this LSP."
   ::= { mplsLspEntry 9 }
mplsLspPathChanges OBJECT-TYPE
   SYNTAX          Counter32
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "The number of path changes this LSP has had. For every path change (path down, path
      up, path change), a corresponding syslog/trap (if enabled) is generated for it."
   ::= { mplsLspEntry 10 }
mplsLspLastPathChange OBJECT-TYPE
   SYNTAX          TimeStamp
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "The time in 10-millisecond units since the last change occurred on this LSP."
   ::= { mplsLspEntry 11 }
mplsLspConfiguredPaths OBJECT-TYPE
   SYNTAX          Integer32
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "The number of paths configured for this LSP."
   ::= { mplsLspEntry 12 }
mplsLspStandbyPaths OBJECT-TYPE
   SYNTAX          Integer32
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "The number of standby paths configured for this LSP."
   ::= { mplsLspEntry 13 }
mplsLspOperationalPaths OBJECT-TYPE
   SYNTAX          Integer32
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "The number of operational paths for this LSP. This includes the path currently active,
      as well as operational standby paths."
   ::= { mplsLspEntry 14 }
```

```
mplsLspFrom OBJECT-TYPE
   SYNTAX          IpAddress
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "Source IP address of this LSP."
   ::= { mplsLspEntry 15 }
mplsLspTo OBJECT-TYPE
   SYNTAX          IpAddress
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "Destination IP address of this LSP."
   ::= { mplsLspEntry 16 }
mplsPathName OBJECT-TYPE
   SYNTAX          DisplayString (SIZE(0..16))
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "The name of the active path for this LSP, if any.  If there is none, the name should be
      empty; in that case, the rest of the fields in mplsLspEntry are meaningless."
   ::= { mplsLspEntry 17 }
mplsPathType OBJECT-TYPE
   SYNTAX          INTEGER {
                   other(1),
                   primary(2),
                   standby(3),
                   secondary(4)
                   }
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "The type of path that is active, i.e., a primary path, a standby path, or a generic
      secondary path. This field is meaningless unless mplsPathName is not empty"
   ::= { mplsLspEntry 18 }
mplsPathExplicitRoute OBJECT-TYPE
   SYNTAX          OCTET STRING (SIZE (0..1024))
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "The explicit route used to set up this LSP. This may either be the route configured by
      the user, or a route automatically computed to satisfy constraints set by the user.
      This field is a displayable string in the format of XXX.XXX.XXX.XXX <space> S/L <newline>
      repeated for each explicit address. The S/L character stands for Strict/Loose route.
      This field is meaningless unless mplsPathName is not empty"
   ::= { mplsLspEntry 19 }
mplsPathRecordRoute OBJECT-TYPE
   SYNTAX          OCTET STRING (SIZE (0..1024))
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "The route actually used for this path, as recorded by the signaling protocol.
      This field is a displayable string in the format of XXX.XXX.XXX.XXX <space>
      repeated for each address. This field is meaningless unless mplsPathName is not empty"
   ::= { mplsLspEntry 20 }
mplsPathBandwidth OBJECT-TYPE
   SYNTAX          Integer32
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "The configured bandwidth for this LSP, in units of thousands of bits per second (Kbps).
      This field is meaningless unless mplsPathName is not empty"
   ::= { mplsLspEntry 21 }
```

```
mplsPathCOS OBJECT-TYPE
   SYNTAX          INTEGER (0..7 | 255)
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "The configured Class Of Service on this path.  If the value is between 0 and 7 inclusive,
      this value will be inserted in the 3 bit COS field in the label.  If the value is 255, the value in
      the COS field of the label will depend on other factors. This field is meaningless unless
      mplsPathName is not empty"
   ::= { mplsLspEntry 22 }
mplsPathInclude OBJECT-TYPE
   SYNTAX          Integer32
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "This is a configured set of colors (administrative groups) specified as a bit vector (i.e., bit n
      is 1 if color n is in the set, where n = 0 is the LSB). For each link that this path goes through,
      the link MUST have colors associated with it, and the intersection of the link's colors and
      the 'include' set MUST be non-null. This field is meaningless unless mplsPathName is not
      empty"
   ::= { mplsLspEntry 23 }
mplsPathExclude OBJECT-TYPE
   SYNTAX          Integer32
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "This is a configured set of colors (administrative groups) specified as a bit vector (i.e., bit n
      is 1 if color n is in the set, where n = 0 is the LSB). For each link that this path goes through,
      the link MUST have colors associated with it, and the intersection of the link's colors and
      the 'exclude' set MUST be null. This field is meaningless unless mplsPathName is not
      empty"
   ::= { mplsLspEntry 24 }
mplsPathSetupPriority OBJECT-TYPE
   SYNTAX          INTEGER (0..7)
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
      "The setup priority configured for this path. This field is meaningless unless
      mplsPathName is not empty"
   ::= { mplsLspEntry 25 }
mplsPathHoldPriority OBJECT-TYPE
   SYNTAX          INTEGER (0..7)
   MAX-ACCESS      read-only
   STATUS          current
   DESCRIPTION
   "The hold priority configured for this path. This field is meaningless unless mplsPathName is not
   empty"
   ::= { mplsLspEntry 26 }
mplsPathProperties OBJECT-TYPE
   SYNTAX          INTEGER {
                   record-route(1),
                   adaptive(2),
                   cspf(4),
                   mergeable(8),
                   preemptable(16),
                   preemptive(32),
                   fast-reroute(64)
                   }
   MAX-ACCESS      read-only
   STATUS          current
```

```
    DESCRIPTION
        "The set of configured properties for this path, expressed as a bit map.  For example, if the
        path is an adaptive path, the bit corresponding to bit value xxx is set. This field is
        meaningless unless mplsPathName is not empty"
    ::= { mplsLspEntry 27 }
--
-- definition of MPLS traps
--
mplsTraps OBJECT IDENTIFIER ::= { mpls 4 }
mplsLspUp NOTIFICATION-TYPE
    OBJECTS     { mplsLspName,
                  mplsPathName }  -- LspPath
    STATUS      current
    DESCRIPTION
        "An mplsLspUp trap signifies that the specified LSP is up. The current active
        path for the LSP is mplsPathName."
    ::= { mplsTraps 1 }
mplsLspDown NOTIFICATION-TYPE
    OBJECTS     { mplsLspName,
                  mplsPathName }  -- LspPath
    STATUS      current
    DESCRIPTION
        "An mplsLspDown trap signifies that the specified LSP is down, because the current
        active path mplsPathName went down."
    ::= { mplsTraps 2 }
mplsLspChange NOTIFICATION-TYPE
    OBJECTS     { mplsLspName,
                  mplsPathName }  -- toLspPath
    STATUS      current
    DESCRIPTION
        "An mplsLspChange trap signifies that the the specified LSP has switched traffic to
        the new active path 'toLspPath'. The LSP maintains up state before and after the
        switchover"
    ::= { mplsTraps 3 }
END
```

Proprietary Extensions to the Interface MIB

The JUNOS proprietary Interface MIB provides support for JUNOS extensions to the standard Interface MIB (RFC 1213).

For a downloadable version of this MIB, see www.juniper.net/techpubs/software/junos42/swconfig-install42/html/mib-interface-extensions.txt.

```
--
-- Juniper Enterprise Specific MIB: Interface MIB Extension
--
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--
-- The contents of this document are subject to change without notice.
--

JUNIPER-IF-MIB

DEFINITIONS ::= BEGIN
```

```
IMPORTS
    MODULE-IDENTITY, OBJECT-TYPE, enterprises, Gauge32
        FROM SNMPv2-SMI
    ifEntry
    FROM IF-MIB;

ifJnx MODULE-IDENTITY
    LAST-UPDATED "9910140000Z"
    ORGANIZATION "Juniper Networks, Inc."
    CONTACT-INFO
            "Jeff Cheng
             Juniper Networks, Inc.
             1194 N. Mathilda Avenue
             Sunnyvale, CA 94089
             E-mail: jc@juniper.net"

    DESCRIPTION
           "The MIB module extends the ifTable as defined in IF-MIB."
    ::= { jnxMibs 3 }


-- Until we have the mechanism in place to "include" the definition
-- of the juniperMIB, we replicate it here.  Note that anyone updating
-- jnxMibs must reserve entry 3 for the juniperIfMIB!

juniperMIB OBJECT IDENTIFIER ::= { enterprises 2636 }
jnxMibs    OBJECT IDENTIFIER ::= { juniperMIB 3 }


--
-- This table augments ifTable
--
    ifJnxTable      OBJECT-TYPE
    SYNTAX          SEQUENCE OF IfJnxEntry
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "A list of Juniper's extension to the interface entries. The number of entries is given by the value
        of ifNumber. This table contains additional objects for the interface table."
    ::= { ifJnx 1 }

    ifJnxEntry      OBJECT-TYPE
    SYNTAX          IfJnxEntry
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "An entry containing additional management information applicable to a particular interface."
    AUGMENTS    { ifEntry }
    ::= { ifJnxTable 1 }

    IfJnxEntry ::=
    SEQUENCE {
        ifIn1SecRate       Gauge32,
        ifIn1SecOctets     Gauge32,
        ifIn1SecPkts       Gauge32,
        ifOut1SecRate      Gauge32,
        ifOut1SecOctets    Gauge32,
        ifOut1SecPkts      Gauge32
    }
```

```
    ifIn1SecRate OBJECT-TYPE
    SYNTAX          Gauge32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
       "The number of bits per second (bps), delivered by this (sub-)layer to its next higher (sub-)layer."
    ::= { ifJnxEntry 1 }

    ifIn1SecOctets OBJECT-TYPE
    SYNTAX          Gauge32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
       "The number of octets per second (Bps, Bytes per second), delivered by this (sub-)layer to its next
       higher (sub-)layer."
    ::= { ifJnxEntry 2 }

    ifIn1SecPkts OBJECT-TYPE
    SYNTAX          Gauge32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
       "The number of packets per second (pps), delivered by this (sub-)layer to its next higher
       (sub-)layer."
    ::= { ifJnxEntry 3 }

    ifOut1SecRate OBJECT-TYPE
    SYNTAX          Gauge32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
       "The number of bits per second (bps), delivered by this (sub-)layer to its next lower (sub-)layer."
    ::= { ifJnxEntry 4 }

    ifOut1SecOctets OBJECT-TYPE
    SYNTAX          Gauge32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
       "The number of octets per second (Bps, Bytes per second), delivered by this (sub-)layer to its next
       lower (sub-)layer."
    ::= { ifJnxEntry 5 }

    ifOut1SecPkts OBJECT-TYPE
    SYNTAX          Gauge32
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
       "The number of packets per second (pps), delivered by this (sub-)layer to its next lower
       (sub-)layer."
    ::= { ifJnxEntry 6 }

END
```

JUNOS SNMP Version 1 Traps

The four JUNOS proprietary trap MIBs support the enterprise-specific SNMP Version 1 traps for BGP, the chassis, MPLS, and OSPF:

BGP Version 1 Traps MIB

For a downloadable version of these traps, see www.juniper.net/techpubs/software/junos42/swconfig-install42/html/v1_traps_bgp.txt.

```
--
-- Juniper Enterprise Specific BGP Traps for SNMP V1
--
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--
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--

JUNIPER-V1-TRAPS-BGP
DEFINITIONS ::= BEGIN

IMPORTS
    enterprises         FROM RFC1155-SMI
    mib-2               FROM RFC1213-MIB
    TRAP-TYPE           FROM RFC-1215;

--  The following chassis objects are from Juniper Chassis MIB

    juniperMIB          OBJECT IDENTIFIER ::= { enterprises 2636 }

--  The following BGP objects are from RFC 1657

    bgp                 OBJECT IDENTIFIER ::= { mib-2 15 }

    bgpPeerTable        OBJECT IDENTIFIER ::= { bgp 3 }
    bgpPeerEntry        OBJECT IDENTIFIER ::= { bgpPeerTable 1 }
    bgpPeerState        OBJECT IDENTIFIER ::= { bgpPeerEntry 2 }
    bgpPeerLastError    OBJECT IDENTIFIER ::= { bgpPeerEntry 14 }
```

```
--
--  BGP traps
--

    bgpEstablishedV1    TRAP-TYPE
        ENTERPRISE        juniperMIB
        VARIABLES {
                    bgpPeerLastError,
                    bgpPeerState
                  }
        DESCRIPTION
                "The BGP Established event is generated when the BGP FSM enters the ESTABLISHED
state."
        ::= 1

    bgpBackwardTransitionV1 TRAP-TYPE
        ENTERPRISE      juniperMIB
        VARIABLES {
                    bgpPeerLastError,
                    bgpPeerState
                  }
        DESCRIPTION
                "The BGPBackwardTransition Event is generated when the BGP FSM moves from a higher
               numbered state to a lower numbered state."
        ::= 2

END
```

Chassis Version 1 Traps MIB

For a downloadable version of these traps, see www.juniper.net/techpubs/software/junos42/swconfig-install42/html/v1_traps_chassis.txt.

```
--
-- Juniper Enterprise Specific Chassis Traps for SNMP V1
--
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--
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--

JUNIPER-V1-TRAPS-CHAS
DEFINITIONS ::= BEGIN

IMPORTS
    enterprises      FROM RFC1155-SMI
    TRAP-TYPE        FROM RFC-1215;


--  The following chassis objects are from Juniper Chassis MIB

    juniperMIB          OBJECT IDENTIFIER ::= { enterprises 2636 }

    jnxMibs             OBJECT IDENTIFIER ::= { juniperMIB 3 }
    jnxBoxAnatomy       OBJECT IDENTIFIER ::= { jnxMibs 1 }
```

```
    jnxContentsTable                OBJECT IDENTIFIER ::= { jnxBoxAnatomy 8 }
    jnxContentsEntry                OBJECT IDENTIFIER ::= { jnxContentsTable 1 }
    jnxContentsContainerIndex       OBJECT IDENTIFIER ::= { jnxContentsEntry 1 }
    jnxContentsL1Index              OBJECT IDENTIFIER ::= { jnxContentsEntry 2 }
    jnxContentsL2Index              OBJECT IDENTIFIER ::= { jnxContentsEntry 3 }
    jnxContentsL3Index              OBJECT IDENTIFIER ::= { jnxContentsEntry 4 }
    jnxContentsDescr                OBJECT IDENTIFIER ::= { jnxContentsEntry 6 }

--
-- Chassis traps
--

    jnxPowerSupplyFailureV1     TRAP-TYPE
        ENTERPRISE          juniperMIB
        VARIABLES {
                jnxContentsContainerIndex,
                jnxContentsL1Index,
                jnxContentsL2Index,
                jnxContentsL3Index,
                jnxContentsDescr
              }
        DESCRIPTION
              "A jnxPowerSupplyFailure trap signifies that
              the specified power supply in the chassis has
              been in the failure (bad DC output) condition."
        ::= 1


    jnxFanFailureV1       TRAP-TYPE
        ENTERPRISE          juniperMIB
        VARIABLES {
                jnxContentsContainerIndex,
                jnxContentsL1Index,
                jnxContentsL2Index,
                jnxContentsL3Index,
                jnxContentsDescr
              }
        DESCRIPTION
              "A jnxFanFailure trap signifies that the specified
              cooling fan or impeller in the chassis has been in
              the failure (not spinning) condition."
        ::= 2


    jnxOverTemperatureV1    TRAP-TYPE
        ENTERPRISE          juniperMIB
        VARIABLES {
                jnxContentsContainerIndex,
                jnxContentsL1Index,
                jnxContentsL2Index,
                jnxContentsL3Index,
                jnxContentsDescr
              }
        DESCRIPTION
              "A jnxOverTemperature trap signifies that the
              specified hardware component in the chassis has
              experienced over temperature condition."
        ::= 3

END
```

MPLS Version 1 Traps MIB

For a downloadable version of these traps, see
www.juniper.net/techpubs/software/junos42/swconfig-install42/html/v1_traps_mpls.txt.

```
--
-- Juniper Enterprise Specific MPLS Traps for SNMP V1
--
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--
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--

JUNIPER-V1-TRAPS-MPLS
DEFINITIONS ::= BEGIN

IMPORTS
    enterprises         FROM RFC1155-SMI
    TRAP-TYPE           FROM RFC-1215;


--  The following chassis objects are from Juniper Chassis MIB

    juniperMIB      OBJECT IDENTIFIER ::= { enterprises 2636 }
    jnxMibs         OBJECT IDENTIFIER ::= { juniperMIB 3 }


--  The following MPLS objects are from Juniper MPLS MIB

    mpls            OBJECT IDENTIFIER ::= { jnxMibs 2 }

    mplsLspList     OBJECT IDENTIFIER ::= { mpls 3 }

    mplsLspEntry        OBJECT IDENTIFIER ::= { mplsLspList 1 }
    mplsLspName         OBJECT IDENTIFIER ::= { mplsLspEntry 1 }
    mplsPathName        OBJECT IDENTIFIER ::= { mplsLspEntry 17 }


--
--  MPLS traps
--

    mplsLspUpV1     TRAP-TYPE
        ENTERPRISE  juniperMIB
        VARIABLES {
                    mplsLspName,
                    mplsPathName   -- LspPath
                  }
        DESCRIPTION
              "An mplsLspUp trap signifies that the specified LSP is up. The current active
              path for the LSP is mplsPathName."
        ::= 1
```

```
    mplsLspDownV1  TRAP-TYPE
       ENTERPRISE    juniperMIB
       VARIABLES {
                 mplsLspName,
                 mplsPathName   -- LspPath
                }
       DESCRIPTION
             "An mplsLspDown trap signifies that the specified LSP is down, because the current
             active path mplsPathName went down."
       ::= 2


    mplsLspChangeV1   TRAP-TYPE
       ENTERPRISE       juniperMIB
       VARIABLES {
                 mplsLspName,
                 mplsPathName   -- toLspPath
                }
       DESCRIPTION
             "An mplsLspChange trap signifies that the specified LSP has switched traffic to
           the new active path 'toLspPath'. The LSP maintains up state before and after the switch over"
       ::= 3

END
```

OSPF Version 1 Traps MIB

For a downloadable version of these traps, see www.juniper.net/techpubs/software/junos42/swconfig-install42/html/v1_traps_ospf.txt.

```
--
-- Juniper Enterprise Specific OSPF Traps for SNMP V1
--
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--
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--

JUNIPER-V1-TRAPS-OSPF
DEFINITIONS ::= BEGIN

IMPORTS
   enterprises        FROM RFC1155-SMI
   mib-2              FROM RFC1213-MIB
   TRAP-TYPE          FROM RFC-1215;


-- The following chassis objects are from Juniper Chassis MIB

   juniperMIB         OBJECT IDENTIFIER ::= { enterprises 2636 }


-- The following OSPF objects are from RFC 1850

   ospf       OBJECT IDENTIFIER ::= { mib-2 14 }

   ospfGeneralGroup      OBJECT IDENTIFIER ::= { ospf 1 }
   ospfRouterId          OBJECT IDENTIFIER ::= { ospfGeneralGroup 1 }
   ospfExtLsdbLimit      OBJECT IDENTIFIER ::= { ospfGeneralGroup 11 }
```

```
    ospfLsdbTable           OBJECT IDENTIFIER ::= { ospf 4 }
    ospfLsdbEntry           OBJECT IDENTIFIER ::= { ospfLsdbTable 1 }
    ospfLsdbAreaId          OBJECT IDENTIFIER ::= { ospfLsdbEntry 1 }
    ospfLsdbType            OBJECT IDENTIFIER ::= { ospfLsdbEntry 2 }
    ospfLsdbLsid            OBJECT IDENTIFIER ::= { ospfLsdbEntry 3 }
    ospfLsdbRouterId        OBJECT IDENTIFIER ::= { ospfLsdbEntry 4 }

    ospfIfTable             OBJECT IDENTIFIER ::= { ospf 7 }
    ospfIfEntry             OBJECT IDENTIFIER ::= { ospfIfTable 1 }
    ospfIfIpAddress         OBJECT IDENTIFIER ::= { ospfIfEntry 1 }
    ospfAddressLessIf       OBJECT IDENTIFIER ::= { ospfIfEntry 2 }
    ospfIfState             OBJECT IDENTIFIER ::= { ospfIfEntry 12 }

    ospfVirtIfTable         OBJECT IDENTIFIER ::= { ospf 9 }
    ospfVirtIfEntry         OBJECT IDENTIFIER ::= { ospfVirtIfTable 1 }
    ospfVirtIfAreaId        OBJECT IDENTIFIER ::= { ospfVirtIfEntry 1 }
    ospfVirtIfNeighbor      OBJECT IDENTIFIER ::= { ospfVirtIfEntry 2 }
    ospfVirtIfState         OBJECT IDENTIFIER ::= { ospfVirtIfEntry 7 }

    ospfNbrTable            OBJECT IDENTIFIER ::= { ospf 10 }
    ospfNbrEntry            OBJECT IDENTIFIER ::= { ospfNbrTable 1 }
    ospfNbrIpAddr           OBJECT IDENTIFIER ::= { ospfNbrEntry 1 }
    ospfNbrAddressLessIndex     OBJECT IDENTIFIER ::= { ospfNbrEntry 2 }
    ospfNbrRtrId            OBJECT IDENTIFIER ::= { ospfNbrEntry 3 }
    ospfNbrState            OBJECT IDENTIFIER ::= { ospfNbrEntry 6 }

    ospfVirtNbrTable        OBJECT IDENTIFIER ::= { ospf 11 }
    ospfVirtNbrEntry        OBJECT IDENTIFIER ::= { ospfVirtNbrTable 1 }
    ospfVirtNbrArea         OBJECT IDENTIFIER ::= { ospfVirtNbrEntry 1 }
    ospfVirtNbrRtrId        OBJECT IDENTIFIER ::= { ospfVirtNbrEntry 2 }
    ospfVirtNbrState        OBJECT IDENTIFIER ::= { ospfVirtNbrEntry 5 }

    ospfTrap                OBJECT IDENTIFIER ::= { ospf 16 }
    ospfTrapControl         OBJECT IDENTIFIER ::= { ospfTrap 1 }
    ospfConfigErrorType     OBJECT IDENTIFIER ::= { ospfTrapControl 2 }
    ospfPacketType          OBJECT IDENTIFIER ::= { ospfTrapControl 3 }
    ospfPacketSrc           OBJECT IDENTIFIER ::= { ospfTrapControl 4 }

--
--  OSPF traps
--

    ospfVirtIfStateChangeV1     TRAP-TYPE
        ENTERPRISE          juniperMIB
        VARIABLES {
                ospfRouterId,         -- The originator of the trap
                ospfVirtIfAreaId,
                ospfVirtIfNeighbor,
                ospfVirtIfState       -- The new state
               }
        DESCRIPTION
              "An ospfIfStateChange trap signifies that there has  been a change in the state of an OSPF
              virtual interface. This trap should be generated when the interface state regresses
            (e.g., goes from Point-to-Point to Down) or progresses to a terminal state (i.e., Point-to-Point)."
        ::= 1
```

```
ospfNbrStateChangeV1       TRAP-TYPE
   ENTERPRISE          juniperMIB
   VARIABLES {
            ospfRouterId,     -- The originator of the trap
            ospfNbrIpAddr,
            ospfNbrAddressLessIndex,
            ospfNbrRtrId,
            ospfNbrState      -- The new state
           }
   DESCRIPTION
         "An  ospfNbrStateChange trap signifies that there has been a change in the state of a non-
         virtual OSPF neighbor. This trap should be generated when the neighbor state regresses
         (e.g., goes from Attempt or Full to 1-Way or Down) or progresses to a terminal state (e.g.,
         2-Way or Full). When a neighbor transitions from or to Full on non-broadcast multi-access
        and broadcast networks, the trap should be generated by the designated router. A designated
         router transitioning to Down will be noted by ospfIfStateChange."
   ::= 2


ospfVirtNbrStateChangeV1      TRAP-TYPE
   ENTERPRISE          juniperMIB
   VARIABLES {
            ospfRouterId,     -- The originator of the trap
            ospfVirtNbrArea,
            ospfVirtNbrRtrId,
            ospfVirtNbrState -- The new state
           }
   DESCRIPTION
        "An ospfIfStateChange trap signifies that there has been a change in the state of an OSPF vir-
         tual neighbor. This trap should be generated when the neighbor state regresses (e.g., goes
         from Attempt or Full to 1-Way or Down) or progresses to a terminal state (e.g., Full)."
   ::= 3


ospfIfConfigErrorV1            TRAP-TYPE
   ENTERPRISE                  juniperMIB
   VARIABLES {
            ospfRouterId,           -- The originator of the trap
            ospfIfIpAddress,
            ospfAddressLessIf,
            ospfPacketSrc,          -- The source IP address
            ospfConfigErrorType,    -- Type of error
            ospfPacketType
           }
   DESCRIPTION
         "An ospfIfConfigError trap signifies that a packet has been received on a non-virtual interface
         from a router whose configuration parameters conflict with this router's configuration
         parameters. Note that the event optionMismatch should cause a trap only if it
         prevents an adjacency from forming."
   ::= 4


ospfVirtIfConfigErrorV1     TRAP-TYPE
   ENTERPRISE          juniperMIB
   VARIABLES {
            ospfRouterId,           -- The originator of the trap
            ospfVirtIfAreaId,
            ospfVirtIfNeighbor,
            ospfConfigErrorType,    -- Type of error
            ospfPacketType
           }
```

```
    DESCRIPTION
          "An ospfConfigError trap signifies that a packet has been received on a virtual interface
          from a router whose configuration parameters conflict with this router's configuration
          parameters. Note that the event optionMismatch should cause a trap only if it prevents an
          adjacency from forming."
    ::= 5


ospfIfAuthFailureV1      TRAP-TYPE
    ENTERPRISE       juniperMIB
    VARIABLES {
              ospfRouterId,          -- The originator of the trap
              ospfIfIpAddress,
              ospfAddressLessIf,
              ospfPacketSrc,         -- The source IP address
              ospfConfigErrorType,   -- authTypeMismatch or
                                     -- authFailure
              ospfPacketType
            }
    DESCRIPTION
          "An ospfIfAuthFailure trap signifies that a packet has been received on a non-virtual
          interface from a router whose authentication key or authentication type conflicts with this
          router's authentication key or authentication type."
    ::= 6


ospfVirtIfAuthFailureV1    TRAP-TYPE
    ENTERPRISE           juniperMIB
    VARIABLES {
              ospfRouterId,          -- The originator of the trap
              ospfVirtIfAreaId,
              ospfVirtIfNeighbor,
              ospfConfigErrorType,   -- authTypeMismatch or
                                     -- authFailure
              ospfPacketType
            }
    DESCRIPTION
          "An ospfVirtIfAuthFailure trap signifies that a packet has been received on a virtual interface
          from a router whose authentication key or authentication type conflicts with this router's
          authentication key or authentication type."
    ::= 7


ospfIfRxBadPacketV1      TRAP-TYPE
    ENTERPRISE           juniperMIB
    VARIABLES {
              ospfRouterId,        -- The originator of the trap
              ospfIfIpAddress,
              ospfAddressLessIf,
              ospfPacketSrc,       -- The source IP address
              ospfPacketType
            }
    DESCRIPTION
          "An ospfIfRxBadPacket trap signifies that an OSPF packet has been received on a non-virtual
          interface that cannot be parsed."
    ::= 8
```

```
ospfVirtIfRxBadPacketV1     TRAP-TYPE
   ENTERPRISE               juniperMIB
   VARIABLES {
            ospfRouterId,         -- The originator of the trap
            ospfVirtIfAreaId,
            ospfVirtIfNeighbor,
            ospfPacketType
           }
   DESCRIPTION
         "An ospfRxBadPacket trap signifies that an OSPF
         packet has been received on a virtual interface that cannot be parsed."
   ::= 9


ospfTxRetransmitV1          TRAP-TYPE
   ENTERPRISE               juniperMIB
   VARIABLES {
            ospfRouterId,         -- The originator of the trap
            ospfIfIpAddress,
            ospfAddressLessIf,
            ospfNbrRtrId,         -- Destination
            ospfPacketType,
            ospfLsdbType,
            ospfLsdbLsid,
            ospfLsdbRouterId
           }
   DESCRIPTION
          "An ospfTxRetransmit  trap signifies than an OSPF packet has been retransmitted on a non-
          virtual interface. All packets that may be retransmitted are associated with an LSDB entry.
          The LS type, LS ID, and Router ID are used to identify the LSDB entry."
   ::= 10


ospfVirtIfTxRetransmitV1        TRAP-TYPE
   ENTERPRISE                   juniperMIB
   VARIABLES {
            ospfRouterId,         - The originator of the trap
            ospfVirtIfAreaId,
            ospfVirtIfNeighbor,
            ospfPacketType,
            ospfLsdbType,
            ospfLsdbLsid,
            ospfLsdbRouterId
           }
   DESCRIPTION
         "An ospfTxRetransmit trap signifies than an OSPF packet has been retransmitted on a virtual
          interface. All packets that may be retransmitted are associated with an LSDB entry. The LS
          type, LS ID, and Router ID are used to identify the LSDB entry."
   ::= 11


ospfOriginateLsaV1     TRAP-TYPE
   ENTERPRISE          juniperMIB
   VARIABLES {
            ospfRouterId,     -- The originator of the trap
            ospfLsdbAreaId,  -- 0.0.0.0 for AS Externals
            ospfLsdbType,
            ospfLsdbLsid,
            ospfLsdbRouterId
           }
```

```
    DESCRIPTION
          "An ospfOriginateLsa trap signifies that a new LSA has been originated by this router. This
          trap should not be invoked for simple refreshes of LSAs (which happen every 30 minutes),
          but instead will only be invoked when an LSA is (re)originated due to a topology change.
          Additionally, this trap does not include LSAs that are being flushed because they have
          reached MaxAge."
    ::= 12


  ospfMaxAgeLsaV1       TRAP-TYPE
    ENTERPRISE       juniperMIB
    VARIABLES {
              ospfRouterId,      -- The originator of the trap
              ospfLsdbAreaId,  -- 0.0.0.0 for AS Externals
              ospfLsdbType,
              ospfLsdbLsid,
              ospfLsdbRouterId
             }
    DESCRIPTION
          "An ospfMaxAgeLsa trap signifies that one of the LSAs in the router's link-state database has
          aged to MaxAge."
    ::= 13


  ospfLsdbOverflowV1    TRAP-TYPE
    ENTERPRISE       juniperMIB
    VARIABLES {
              ospfRouterId,      -- The originator of the trap
              ospfExtLsdbLimit
             }
    DESCRIPTION
          "An ospfLsdbOverflow trap signifies that the number of LSAs in the router's link-state data-
          base has exceeded ospfExtLsdbLimit."
    ::= 14


  ospfLsdbApproachingOverflowV1     TRAP-TYPE
    ENTERPRISE       juniperMIB
    VARIABLES {
              ospfRouterId,      -- The originator of the trap
              ospfExtLsdbLimit
             }
    DESCRIPTION
          "An ospfLsdbApproachingOverflow trap signifies that the number of LSAs in the router's link-
          state database has exceeded ninety percent of ospfExtLsdbLimit."
    ::= 15


  ospfIfStateChangeV1       TRAP-TYPE
    ENTERPRISE           juniperMIB
    VARIABLES {
              ospfRouterId,      -- The originator of the trap
              ospfIfIpAddress,
              ospfAddressLessIf,
              ospfIfState         -- The new state
             }
    DESCRIPTION
          "An ospfIfStateChange trap signifies that there has been a change in the state of a non-
          virtual OSPF interface. This trap should be generated when the interface state regresses
          (e.g., goes from Dr to Down) or progresses to a terminal state (i.e., Point-to-Point, DR Other,
          Dr, or Backup)."
    ::= 16
END
```