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SNMPv2 Management Information Base for the User Datagram Protocol using SMIv2

Status of this Memo

This document specifies an Internet standards track protocol for the Internet community, and requests discussion and suggestions for improvements. Please refer to the current edition of the "Internet Official Protocol Standards" (STD 1) for the standardization state and status of this protocol. Distribution of this memo is unlimited.

IESG Note:

The IP, UDP, and TCP MIB modules currently support only IPv4. These three modules use the IpAddress type defined as an OCTET STRING of length 4 to represent the IPv4 32-bit internet addresses. (See RFC 1902, SMI for SNMPv2.) They do not support the new 128-bit IPv6 internet addresses.

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1. Introduction

A management system contains: several (potentially many) nodes, each with a processing entity, termed an agent, which has access to management instrumentation; at least one management station; and, a management protocol, used to convey management information between the agents and management stations. Operations of the protocol are carried out under an administrative framework which defines authentication, authorization, access control, and privacy policies.

Management stations execute management applications which monitor and control managed elements. Managed elements are devices such as hosts, routers, terminal servers, etc., which are monitored and controlled via access to their management information.

Management information is viewed as a collection of managed objects, residing in a virtual information store, termed the Management Information Base (MIB). Collections of related objects are defined in MIB modules. These modules are written using a subset of OSI's Abstract Syntax Notation One (ASN.1) [1], termed the Structure of Management Information (SMI) [2].

This document is the MIB module which defines managed objects for managing implementations of the User Datagram Protocol (UDP) [3].

The managed objects in this MIB module were originally defined using the SNMPv1 framework as a part of MIB-II [4]. This document defines the same objects for UDP using the SNMPv2 framework.

2. Definitions

```
UDP-MIB DEFINITIONS ::= BEGIN

IMPORTS
    MODULE-IDENTITY, OBJECT-TYPE, Counter32,
    IpAddress, mib-2                    FROM SNMPv2-SMI
    MODULE-COMPLIANCE, OBJECT-GROUP     FROM SNMPv2-CONF;


udpMIB MODULE-IDENTITY
    LAST-UPDATED "9411010000Z"
    ORGANIZATION "IETF SNMPv2 Working Group"
    CONTACT-INFO
            "        Keith McCloghrie

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```

```
    DESCRIPTION
            "The MIB module for managing UDP implementations."
    REVISION      "9103310000Z"
    DESCRIPTION
            "The initial revision of this MIB module was part of MIB-
            II."
    ::= { mib-2 50 }

-- the UDP group

udp      OBJECT IDENTIFIER ::= { mib-2 7 }

udpInDatagrams OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The total number of UDP datagrams delivered to UDP users."
    ::= { udp 1 }

udpNoPorts OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The total number of received UDP datagrams for which there
            was no application at the destination port."
    ::= { udp 2 }

udpInErrors OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The number of received UDP datagrams that could not be
            delivered for reasons other than the lack of an application
            at the destination port."
    ::= { udp 3 }

udpOutDatagrams OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The total number of UDP datagrams sent from this entity."
    ::= { udp 4 }
```

```
-- the UDP Listener table

-- The UDP listener table contains information about this
-- entity's UDP end-points on which a local application is
-- currently accepting datagrams.

udpTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF UdpEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "A table containing UDP listener information."
    ::= { udp 5 }

udpEntry OBJECT-TYPE
    SYNTAX      UdpEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "Information about a particular current UDP listener."
    INDEX   { udpLocalAddress, udpLocalPort }
    ::= { udpTable 1 }

UdpEntry ::= SEQUENCE {
        udpLocalAddress  IpAddress,
        udpLocalPort     INTEGER
    }

udpLocalAddress OBJECT-TYPE
    SYNTAX      IpAddress
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The local IP address for this UDP listener.  In the case of
            a UDP listener which is willing to accept datagrams for any
            IP interface associated with the node, the value 0.0.0.0 is
            used."
    ::= { udpEntry 1 }

udpLocalPort OBJECT-TYPE
    SYNTAX      INTEGER (0..65535)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "The local port number for this UDP listener."
    ::= { udpEntry 2 }
```

```
-- conformance information

udpMIBConformance OBJECT IDENTIFIER ::= { udpMIB 2 }

udpMIBCompliances OBJECT IDENTIFIER ::= { udpMIBConformance 1 }
udpMIBGroups      OBJECT IDENTIFIER ::= { udpMIBConformance 2 }

-- compliance statements

udpMIBCompliance MODULE-COMPLIANCE
    STATUS  current
    DESCRIPTION
            "The compliance statement for SNMPv2 entities which
            implement UDP."
    MODULE  -- this module
        MANDATORY-GROUPS { udpGroup
                         }
    ::= { udpMIBCompliances 1 }

-- units of conformance

udpGroup OBJECT-GROUP
    OBJECTS   { udpInDatagrams, udpNoPorts,
                udpInErrors, udpOutDatagrams,
                udpLocalAddress, udpLocalPort }
    STATUS    current
    DESCRIPTION
            "The udp group of objects providing for management of UDP
            entities."
    ::= { udpMIBGroups 1 }

END
```

3. Acknowledgements

This document contains a modified subset of RFC 1213.

4. References

[1] Information processing systems - Open Systems Interconnection Specification of Abstract Syntax Notation One (ASN.1), International Organization for Standardization. International Standard 8824, (December, 1987).

[2] McCloghrie, K., Editor, "Structure of Management Information for version 2 of the Simple Network Management Protocol (SNMPv2)", RFC 1902, Cisco Systems, January 1996.

[3] Postel, J., "User Datagram Protocol", STD 6, RFC 768, USC-ISI, August 1980.

[4] McCloghrie, K., and Rose, M., "Management Information Base for Network Management of TCP/IP-based internets: MIB-II", STD 17, RFC 1213, March 1991.

5. Security Considerations

Security issues are not discussed in this memo.

6. Editor's Address

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