

SNMPv2 Management Information Base
for the User Datagram Protocol

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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.

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2. Definitions

```
UDP-MIB DEFINITIONS ::= BEGIN
```

```
IMPORTS
```

```
    MODULE-IDENTITY, OBJECT-TYPE, Counter32,  
    experimental,           -- to be removed later  
    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
```

```
        Postal: Cisco Systems, Inc.  
                170 West Tasman Drive  
                San Jose, CA 95134-1706  
                USA
```

```
        Phone: +1 408 526 5260
```

```
        Email: kzm@cisco.com"
```

```
DESCRIPTION
```

```
    "The MIB module for managing UDP implementations."  
    -- to be assigned as {mib-2 xx} by IANA
```

```
::= { experimental xx }
```

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-- 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.
```

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```
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 }
```

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-- 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] Case, J., McCloghrie, K., Rose, M., and Waldbusser, S., "Structure of Management Information for version 2 of the Simple Network Management Protocol (SNMPv2)", Internet Draft, SNMP Research, Inc., Cisco Systems, Dover Beach Consulting, Inc., Carnegie Mellon University, November 1994.
- [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.

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[5.](#) Security Considerations

Security issues are not discussed in this memo.

6. Authors' Addresses

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