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S. De Cnodder
Alcatel
N. Jonnala
Future Soft
M. Chiba
Cisco Systems, Inc.
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RADIUS Dynamic Authorization Server MIB
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Abstract

This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in the Internet community. In particular, it describes the RADIUS dynamic authorization server

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(DAS) functions that support the dynamic authorization extensions as defined in [RFC 3576](#).

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1. Requirements notation

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [[RFC2119](#)].

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[2.](#) Introduction

This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in the Internet community. It is becoming increasingly important to support Dynamic Authorization extensions on the network access server (NAS) devices to handle the Disconnect and Change-of-Authorization (CoA) messages as described in [[RFC3576](#)] . As a result, the effective management of RADIUS Dynamic Authorization entities is of considerable importance. It complements the managed objects used for managing RADIUS authentication and accounting clients as described in [[RFC2618](#)] and [[RFC2620](#)], respectively.

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3. The Internet-Standard Management Framework

For a detailed overview of the documents that describe the current Internet-Standard Management Framework, please refer to [section 7 of \[RFC3410\]](#).

Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. MIB objects are generally accessed through the Simple Network Management Protocol (SNMP). Objects in the MIB are defined using the mechanisms defined in the Structure of Management Information (SMI). This memo specifies a MIB module that is compliant to the SMIV2, which is described in STD 58, [RFC2578](#) [[RFC2578](#)], STD 58, [RFC2579](#) [[RFC2579](#)] and STD 58, [RFC2580](#) [[RFC2580](#)].

[4.](#) Terminology

Dynamic Authorization Server (DAS)

The component that resides on the NAS which processes the Disconnect and CoA requests sent by the Dynamic Authorization Client as described in [[RFC3576](#)].

Dynamic Authorization Client (DAC)

The component which sends the Disconnect and CoA requests to the Dynamic Authorization Server as described in [[RFC3576](#)].

Dynamic Authorization Server Port

The UDP port on which the Dynamic Authorization server listens for the Disconnect and CoA requests sent by the Dynamic Authorization Client.

[5.](#) Overview

The RADIUS dynamic authorization extensions defined in [\[RFC3576\]](#), distinguish between the client function and the server function. In RADIUS dynamic authorization, clients send Disconnect-Requests and CoA-Requests, and servers reply with Disconnect-Acks, CoA-Acks, and CoA-NAKs. Typically NAS devices implement the DAS function, and thus would be expected to implement the RADIUS dynamic authorization

server MIB, while DACs implement the client function, and thus would be expected to implement the RADIUS dynamic authorization client MIB.

However, it is possible for a RADIUS dynamic authorization entity to perform both client and server functions. For example, a RADIUS proxy may act as a DAS to one or more DACs, while simultaneously acting as a DAC to one or more DASSs. In such situations, it is expected that RADIUS entities combining client and server functionality will support both the client and server MIBs.

This memo describes the MIB for dynamic authorization servers and relates to the following documents as follows:

[RFC2618] describes the MIB for a RADIUS authentication client.

[RFC2619] describes the MIB for a RADIUS authentication server.

[RFC2620] describes the MIB for a RADIUS accounting client.

[RFC2621] describes the MIB for a RADIUS accounting server.

[DYNCLNT] describes the MIB for a RADIUS dynamic authorization client.

A NAS typically implements the MIBs for a RADIUS authentication client, a RADIUS accounting client, and a RADIUS dynamic authorization server. However, there is not strict relationship between these three MIBs, i.e. one MIB can be implemented without implementing the other MIBs. Similarly, for the other 3 MIBs mentioned above, a typical case would be where the MIBs for a RADIUS authentication server, a RADIUS accounting server, and a RADIUS dynamic authorization client are implemented by the same device. However, also for these 3 MIBs, they can be implemented independent from each other. A RADIUS proxy might implement any of these 6 MIBs, but can also implement any subset of these MIBs.

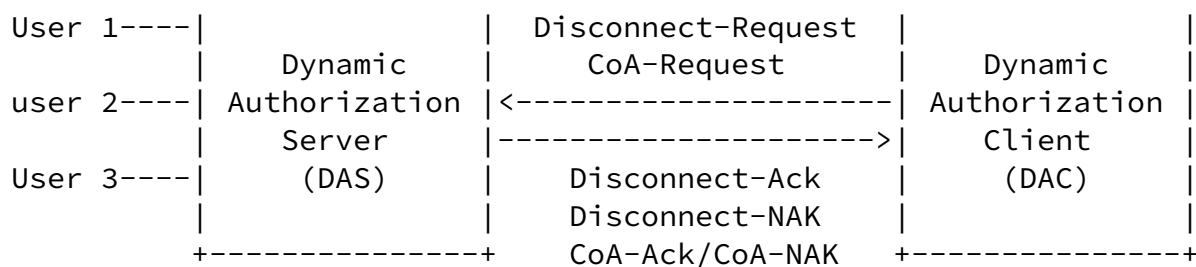


Figure 1: Mapping of clients and servers.

This MIB module for the dynamic authorization server contains the following:

1. Two scalar objects
2. One Dynamic Authorization Client Table. This table contains one row for each DAC that the DAS shares a secret with.

6. RADIUS Dynamic Authorization Server MIB Definitions

RADIUS-DYNAUTH-SERVER-MIB DEFINITIONS ::= BEGIN

IMPORTS

MODULE-IDENTITY, OBJECT-TYPE,
Counter32, Integer32, mib-2 FROM SNMPv2-SMI
SnmpAdminString FROM SNMP-FRAMEWORK-MIB
InetAddressType, InetAddress FROM INET-ADDRESS-MIB
MODULE-COMPLIANCE, OBJECT-GROUP FROM SNMPv2-CONF;

radiusDynAuthServerMIB MODULE-IDENTITY

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ORGANIZATION "IETF RADEXT Working Group"

CONTACT-INFO

" Stefaan De Cnodder
Alcatel
Francis Wellesplein 1
B-2018 Antwerp
Belgium

Phone: +32 3 240 85 15

EMail: stefaan.de_cnodder@alcatel.be

Nagi Reddy Jonnala
Future Soft
480 - 481, Anna Salai
Nandanam, Chennai
India

EMail: nagi_reddy.jonnala@alcatel.be

Murtaza Chiba
Cisco Systems, Inc.
170 West Tasman Dr.
San Jose CA, 95134

Phone: +1 408 525 7198

EMail: mchiba@cisco.com "

DESCRIPTION

"The MIB module for entities implementing the server side of the Dynamic Authorization extensions Remote Access Dialin User Service (RADIUS) protocol.

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<http://www.ietf.org/copyrights/ianamib.html>."

-- RFC Ed.: replace yyyy with actual RFC number & remove this note

REVISION "200502070000Z" -- 7 February 2005

DESCRIPTION "Initial version as published in RFC yyyy."

-- RFC Ed.: replace yyyy with actual RFC number & remove this note

::= { radiusDynamicAuthorization 1 }

radiusDynamicAuthorization OBJECT IDENTIFIER ::= { mib-2 xxx }

-- The value xxx to be assigned by IANA.

radiusDynAuthServerMIBObjects OBJECT IDENTIFIER ::=

{ radiusDynAuthServerMIB 1 }

radiusDynAuthServer OBJECT IDENTIFIER ::=

{ radiusDynAuthServerMIBObjects 1 }

radiusDynAuthServerInvalidClientAddresses OBJECT-TYPE

SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of RADIUS dynamic authorization messages
(both Disconnect and CoA) received from unknown
addresses."

::= { radiusDynAuthServer 1 }

radiusDynAuthServerIdentifier OBJECT-TYPE

SYNTAX SnmpAdminString

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The NAS-Identifier of the RADIUS dynamic authorization
server."

REFERENCE

"[RFC 2865, Section 5.32](#), NAS-Identifier."

::= { radiusDynAuthServer 2 }

radiusDynAuthClientTable OBJECT-TYPE

```

SYNTAX SEQUENCE OF RadiusDynAuthClientEntry
MAX-ACCESS not-accessible
STATUS      current
DESCRIPTION
    "The (conceptual) table listing the RADIUS dynamic
    authorization clients with which the server shares a
    secret."
 ::= { radiusDynAuthServer 3 }

```

```

radiusDynAuthClientEntry OBJECT-TYPE
    SYNTAX      RadiusDynAuthClientEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "An entry (conceptual row) representing one Dynamic
        Authorization Client with which the server shares a
        secret."
    INDEX       { radiusDynAuthClientIndex }
    ::= { radiusDynAuthClientTable 1 }

```

```

RadiusDynAuthClientEntry ::= SEQUENCE {
    radiusDynAuthClientIndex          Integer32,
    radiusDynAuthClientAddressType    InetAddressType,
    radiusDynAuthClientAddress        InetAddress,
    radiusDynAuthServDisconRequests   Counter32,
    radiusDynAuthServDupDisconRequests Counter32,
    radiusDynAuthServDisconAcks       Counter32,
    radiusDynAuthServDisconNaks       Counter32,
    radiusDynAuthServDisconUserSessRemoved Counter32,
    radiusDynAuthServMalformedDisconRequests Counter32,
    radiusDynAuthServDisconBadAuthenticators Counter32,
    radiusDynAuthServDisconPacketsDropped Counter32,
    radiusDynAuthServCoARequests      Counter32,
    radiusDynAuthServDupCoARequests   Counter32,
    radiusDynAuthServCoAAcks          Counter32,
    radiusDynAuthServCoANaks          Counter32,
    radiusDynAuthServCoAUserSessChanged Counter32,
    radiusDynAuthServMalformedCoARequests Counter32,
    radiusDynAuthServCoABadAuthenticators Counter32,
    radiusDynAuthServCoAPacketsDropped Counter32,
    radiusDynAuthServUnknownTypes     Counter32
}

```

}

radiusDynAuthClientIndex OBJECT-TYPE

SYNTAX Integer32 (1..2147483647)

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"A number uniquely identifying each RADIUS dynamic authorization client with which this Dynamic Authorization Server communicates. This number is allocated by the agent implementing this MIB module, and is unique in this context."

::= { radiusDynAuthClientEntry 1 }

radiusDynAuthClientAddressType OBJECT-TYPE

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SYNTAX InetAddressType

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The type of IP-Address of the RADIUS Dynamic Authorization Client referred to in this table entry."

::= { radiusDynAuthClientEntry 2 }

radiusDynAuthClientAddress OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The IP-Address value of the RADIUS Dynamic Authorization Client referred to in this table entry."

::= { radiusDynAuthClientEntry 3 }

radiusDynAuthServDisconRequests OBJECT-TYPE

SYNTAX Counter32

UNITS "requests"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of RADIUS Disconnect-Requests received from this Dynamic Authorization Client."

REFERENCE

"[RFC 3576, Section 2.1](#), Disconnect Messages (DM)."
 ::= { radiusDynAuthClientEntry 4 }

radiusDynAuthServDupDisconRequests OBJECT-TYPE

SYNTAX Counter32
UNITS "requests"
MAX-ACCESS read-only
STATUS current
DESCRIPTION

"The number of duplicate RADIUS Disconnect-Request packets received from this Dynamic Authorization Client."

REFERENCE

"[RFC 3576, Section 2.1](#), Disconnect Messages (DM)."
 ::= { radiusDynAuthClientEntry 5 }

radiusDynAuthServDisconAcks OBJECT-TYPE

SYNTAX Counter32
UNITS "replies"
MAX-ACCESS read-only
STATUS current
DESCRIPTION

"The number of RADIUS Disconnect-ACK packets sent to this Dynamic Authorization Client"

REFERENCE

"[RFC 3576, Section 2.1](#), Disconnect Messages (DM)."
 ::= { radiusDynAuthClientEntry 6 }

radiusDynAuthServDisconNaks OBJECT-TYPE

SYNTAX Counter32
UNITS "replies"
MAX-ACCESS read-only
STATUS current
DESCRIPTION

"The number of RADIUS Disconnect-NAK packets sent to this Dynamic Authorization Client."

REFERENCE

"[RFC 3576, Section 2.1](#), Disconnect Messages (DM)."
 ::= { radiusDynAuthClientEntry 7 }

radiusDynAuthServDisconUserSessRemoved OBJECT-TYPE
 SYNTAX Counter32
 UNITS "sessions"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "The number of user sessions removed for the
 Disconnect-Requests received from this
 Dynamic Authorization Client. Depending on site
 specific policies, a single Disconnect request
 can remove multiple user sessions."
 REFERENCE
 "[RFC 3576, Section 2.1](#), Disconnect Messages (DM)."
 ::= { radiusDynAuthClientEntry 8 }

radiusDynAuthServMalformedDisconRequests OBJECT-TYPE
 SYNTAX Counter32
 UNITS "requests"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "The number of malformed RADIUS Disconnect-Request
 packets received from this Dynamic Authorization
 client. Bad authenticators and unknown types are not
 included as malformed Disconnect-Requests."
 REFERENCE
 "[RFC 3576, Section 2.1](#), Disconnect Messages (DM), and
[Section 2.3](#), Packet Format."
 ::= { radiusDynAuthClientEntry 9 }

radiusDynAuthServDisconBadAuthenticators OBJECT-TYPE
 SYNTAX Counter32
 UNITS "requests"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "The number of RADIUS Disconnect-Request packets
 which contained invalid Signature attributes
 received from this Dynamic Authorization Client."
 REFERENCE
 "[RFC 3576, Section 2.1](#), Disconnect Messages (DM), and

[Section 2.3](#), Packet Format."
 ::= { radiusDynAuthClientEntry 10 }

radiusDynAuthServDisconPacketsDropped OBJECT-TYPE

SYNTAX Counter32
UNITS "requests"
MAX-ACCESS read-only
STATUS current
DESCRIPTION

"The number of incoming Disconnect-Requests from this Dynamic Authorization Client silently discarded by the server application for some reason other than malformed, bad authenticators or unknown types."

REFERENCE

"[RFC 3576, Section 2.1](#), Disconnect Messages (DM), and [Section 2.3](#), Packet Format."

::= { radiusDynAuthClientEntry 11 }

radiusDynAuthServCoARequests OBJECT-TYPE

SYNTAX Counter32
UNITS "requests"
MAX-ACCESS read-only
STATUS current
DESCRIPTION

"The number of CoA requests received from this Dynamic Authorization Client."

REFERENCE

"[RFC 3576, Section 2.2](#), Change-of-Authorization Messages (CoA)."

::= { radiusDynAuthClientEntry 12 }

radiusDynAuthServDupCoARequests OBJECT-TYPE

SYNTAX Counter32
UNITS "requests"
MAX-ACCESS read-only
STATUS current

DESCRIPTION

"The number of duplicate RADIUS CoA-Request packets received from this Dynamic Authorization client."

REFERENCE

"[RFC 3576, Section 2.2](#), Change-of-Authorization Messages (CoA)."

::= { radiusDynAuthClientEntry 13 }

radiusDynAuthServCoAAcks OBJECT-TYPE

SYNTAX Counter32

UNITS "replies"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of RADIUS CoA-ACK packets sent to this Dynamic Authorization Client."

REFERENCE

"[RFC 3576, Section 2.2](#), Change-of-Authorization Messages (CoA)."

::= { radiusDynAuthClientEntry 14 }

radiusDynAuthServCoANaks OBJECT-TYPE

SYNTAX Counter32

UNITS "replies"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of RADIUS CoA-NAK packets sent to this Dynamic Authorization Client."

REFERENCE

"[RFC 3576, Section 2.2](#), Change-of-Authorization Messages (CoA)."

::= { radiusDynAuthClientEntry 15 }

radiusDynAuthServCoAUserSessChanged OBJECT-TYPE

SYNTAX Counter32

UNITS "sessions"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of user sessions authorization changed for the CoA-Requests received from this Dynamic Authorization Client. Depending on site specific policies, a single CoA request can change multiple user sessions authorization"

REFERENCE

"[RFC 3576, Section 2.2](#), Change-of-Authorization

Messages (CoA)."
 ::= { radiusDynAuthClientEntry 16 }

radiusDynAuthServMalformedCoARequests OBJECT-TYPE

SYNTAX Counter32
UNITS "requests"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "The number of malformed RADIUS CoA-Request packets received from this Dynamic Authorization Client. Bad authenticators and unknown types are not included as malformed CoA-Requests."
REFERENCE
 "[RFC 3576, Section 2.2](#), Change-of-Authorization Messages (CoA), and [Section 2.3](#), Packet Format."
 ::= { radiusDynAuthClientEntry 17 }

radiusDynAuthServCoABadAuthenticators OBJECT-TYPE

SYNTAX Counter32
UNITS "requests"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "The number of RADIUS CoA-Request packets which contained invalid Signature attributes received from this Dynamic Authorization client."
REFERENCE
 "[RFC 3576, Section 2.2](#), Change-of-Authorization Messages (CoA), and [Section 2.3](#), Packet Format."
 ::= { radiusDynAuthClientEntry 18 }

radiusDynAuthServCoAPacketsDropped OBJECT-TYPE

SYNTAX Counter32
UNITS "requests"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "The number of incoming CoA packets from this Dynamic Authorization Client silently discarded by the server application for some reason other than malformed, bad clisdfauthenticators or unknown types."
REFERENCE
 "[RFC 3576, Section 2.2](#), Change-of-Authorization Messages (CoA), and [Section 2.3](#), Packet Format."
 ::= { radiusDynAuthClientEntry 19 }

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```
SYNTAX      Counter32
UNITS       "requests"
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "The number of incoming packets of unknown types
     which were received on the Dynamic Authorization port."
REFERENCE
    "RFC 3576, Section 2.3, Packet Format."
 ::= { radiusDynAuthClientEntry 20 }
```

```
-- conformance information
```

```
radiusDynAuthServerMIBConformance
    OBJECT IDENTIFIER ::= { radiusDynAuthServerMIB 2 }
radiusDynAuthServerMIBCompliances
    OBJECT IDENTIFIER ::= { radiusDynAuthServerMIBConformance 1 }
radiusDynAuthServerMIBGroups
    OBJECT IDENTIFIER ::= { radiusDynAuthServerMIBConformance 2 }
```

```
-- compliance statements
```

```
radiusAuthServerMIBCompliance MODULE-COMPLIANCE
    STATUS      current
    DESCRIPTION
        "The compliance statement for entities implementing
         the RADIUS Dynamic Authorization Server."
    MODULE      -- this module
    MANDATORY-GROUPS { radiusDynAuthServerMIBGroup }
    ::= { radiusDynAuthServerMIBCompliances 1 }
```

```
-- units of conformance
```

```
radiusDynAuthServerMIBGroup OBJECT-GROUP
    OBJECTS { radiusDynAuthServerInvalidClientAddresses,
               radiusDynAuthServerIdentifier,
               radiusDynAuthClientAddressType,
               radiusDynAuthClientAddress,
               radiusDynAuthServDisconRequests,
               radiusDynAuthServDupDisconRequests,
```

radiusDynAuthServDisconAcks,
radiusDynAuthServDisconNaks,
radiusDynAuthServDisconUserSessRemoved,
radiusDynAuthServMalformedDisconRequests,
radiusDynAuthServDisconBadAuthenticators,
radiusDynAuthServDisconPacketsDropped,
radiusDynAuthServCoARequests,
radiusDynAuthServDupCoARequests,

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radiusDynAuthServCoAAcks,
radiusDynAuthServCoANaks,
radiusDynAuthServCoAUserSessChanged,
radiusDynAuthServMalformedCoARequests,
radiusDynAuthServCoABadAuthenticators,
radiusDynAuthServCoAPacketsDropped,
radiusDynAuthServUnknownTypes

}

STATUS current

DESCRIPTION

 "The collection of objects providing management of
 a RADIUS Dynamic Authorization Server."

::= { radiusDynAuthServerMIBGroups 1 }

END

[7.](#) Security Considerations

There are no management objects defined in this MIB module that have a MAX-ACCESS clause of read-write and/or read-create. So, if this MIB module is implemented correctly, then there is no risk that an intruder can alter or create any management objects of this MIB module via direct SNMP SET operations

Some of the readable objects in this MIB module (i.e., objects with a MAX-ACCESS other than not-accessible) may be considered sensitive or vulnerable in some network environments. It is thus important to control even GET and/or NOTIFY access to these objects and possibly to even encrypt the values of these objects when sending them over the network via SNMP. These are the tables and objects and their sensitivity/vulnerability:

radiusDynAuthClientAddress and radiusDynAuthClientAddressType

These can be used to determine the address of the DAC with which the DAS is communicating. This information could be useful in mounting an attack on the DAC.

radiusDynAuthServerIdentifier

This can be used to determine the Identifier of the DAS. This information could be useful in impersonating the DAS.

The other readable objects are not really considered as being sensitive or vulnerable. These objects are:

radiusDynAuthServerInvalidClientAddresses,
radiusDynAuthServDisconRequests,
radiusDynAuthServDupDisconRequests,
radiusDynAuthServDisconAcks,
radiusDynAuthServDisconNaks,
radiusDynAuthServDisconUserSessRemoved,
radiusDynAuthServMalformedDisconRequests,
radiusDynAuthServDisconBadAuthenticators,
radiusDynAuthServDisconPacketsDropped,
radiusDynAuthServCoARequests,
radiusDynAuthServDupCoARequests,
radiusDynAuthServCoAAcks,
radiusDynAuthServCoANaks,
radiusDynAuthServCoAUserSessChanged,
radiusDynAuthServMalformedCoARequests,
radiusDynAuthServCoABadAuthenticators,
radiusDynAuthServCoAPacketsDropped, and
radiusDynAuthServUnknownTypes.

SNMP versions prior to SNMPv3 did not include adequate security. Even if the network itself is secure (for example by using IPsec), even then, there is no control as to who on the secure network is allowed to access and GET/SET (read/change/create/delete) the objects in this MIB module.

It is RECOMMENDED that implementers consider the security features as provided by the SNMPv3 framework (see [\[RFC3410\]](#), [section 8](#)), including full support for the SNMPv3 cryptographic mechanisms (for authentication and privacy).

Further, deployment of SNMP versions prior to SNMPv3 is NOT RECOMMENDED. Instead, it is RECOMMENDED to deploy SNMPv3 and to enable cryptographic security. It is then a customer/operator responsibility to ensure that the SNMP entity giving access to an instance of this MIB module is properly configured to give access to the objects only to those principals (users) that have legitimate rights to indeed GET or SET (change/create/delete) them.

[8.](#) IANA considerations

IANA is requested to assign an OID xxx under mib-2.

9. Acknowledgements

This document reuses some of the work done in earlier RADIUS MIB specifications [[RFC2618](#)] and [[RFC2620](#)].

The authors would also like to acknowledge the following people for their comments to this document: Anjaneyulu Pata, Dan Romascanu, and Bert Wijnen.

10. References

10.1 Normative References

- [DYNCLNT] De Cnodder, S., Jonnala, N. and M. Chiba, "RADIUS Dynamic Authorization Client MIB", [draft-decnodder-radext-dynauth-client-mib-01.txt](#), work in progress, June 2004.
- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [RFC 2119](#), March 1997.
- [RFC2578] McCloghrie, K., Perkins, D., Schoenwaelder, J., Case, J., Rose, M. and S. Waldbusser, "Structure of Management Information Version 2 (SMIv2)", STD 58, [RFC 2578](#), April 1999.
- [RFC2579] McCloghrie, K., Perkins, D., Schoenwaelder, J., Case, J., Rose, M. and S. Waldbusser, "Textual Conventions for SMIv2", STD 58, [RFC 2579](#), April 1999.
- [RFC2580] McCloghrie, K., Perkins, D., Schoenwaelder, J., Case, J., Rose, M. and S. Waldbusser, "Conformance Statements for SMIv2", STD 58, [RFC 2580](#), April 1999.
- [RFC3576] Chiba, M., Dommety, G., Eklund, M., Mitton, D. and B. Aboba, "Dynamic Authorization Extensions to Remote Authentication Dial In User Service (RADIUS)", [RFC 3576](#), July 2003.

10.2 Informative References

- [RFC2618] Aboba, B. and G. Zorn, "RADIUS Authentication Client MIB", [RFC 2618](#), June 1999.
- [RFC2619] Zorn, G. and B. Aboba, "RADIUS Authentication Server MIB", [RFC 2619](#), June 1999.
- [RFC2620] Aboba, B. and G. Zorn, "RADIUS Accounting Client MIB", [RFC 2620](#), June 1999.
- [RFC2621] Zorn, G. and B. Aboba, "RADIUS Accounting Server MIB", [RFC 2621](#), June 1999.
- [RFC3410] Case, J., Mundy, R., Partain, D. and B. Stewart, "Introduction and Applicability Statements for Internet Standard Management Framework", [RFC 3410](#), December 2002.

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Authors' Addresses

Stefaan De Cnodder
Alcatel
Francis Wellesplein 1
B-2018 Antwerp
Belgium

Phone: +32 3 240 85 15
Email: stefaan.de_cnodder@alcatel.be

Nagi Reddy Jonnala
Future Soft
480 - 481, Anna Salai
Nandanam, Chennai
India

Email: nagi_reddy.jonnala@alcatel.be

Murtaza Chiba
Cisco Systems, Inc.
170 West Tasman Dr.
San Jose CA, 95134

Phone: +1 408 525 7198
Email: mchiba@cisco.com

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