



APPENDIX D

Process Information for SNMP-centric MIBs

Overview of SNMP Framework MIBs

Table D-1 is a summary of SNMP Framework MIBs

Table D-1 *SNMP Framework MIBs*

MIB Module Name	RFC Number	Description
SNMPv2- MIB	RFC-1907	MIB for SNMPv2
SNMP-FRAMEWORK-MIB	RFC-2571	Architecture for describing SNMP management frameworks
SNMP-MPD-MIB	RFC-2572	Message Processing and Dispatching for SNMP
SNMP-TARGET-MIB	RFC-2573	MIBs for specifying targets of management operations
SNMP-NOTIFICATION-MIB	RFC-2573	MIB for notification filtering
SNMP-USER-BASED-SM-MIB	RFC-2574	USM ¹ for version 3
SNMP-VIEW-BASED-ACM-MIB	RFC-2575	VACM ²
SNMP-COMMUNITY-MIB	RFC-2576	Coexistence between SNMP v1, v2, and v3
NOTIFICATION-LOG-MIB	RFC-2573	MIB for logging SNMP notifications
CISCO-BULK-FILE-MIB	—	MIB module for creating and deleting bulk files of SNMP data for file transfer
CISCO-FTP-CLIENT-MIB	—	MIB module for invoking internet FTP operations for network management processes

1. USM = User-based security model

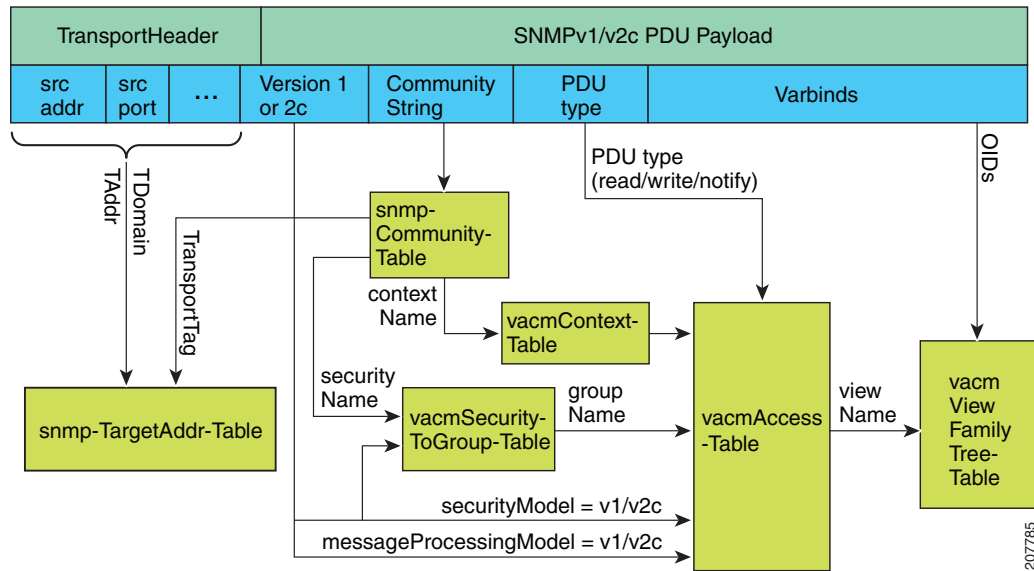
2. VACM = View-based access control model

SNMP Message Processing

SNMPv1 and v2c Coexistence Message Processing

Figure D-1 describes SNMPv1 and v2c Coexistence Message Processing.

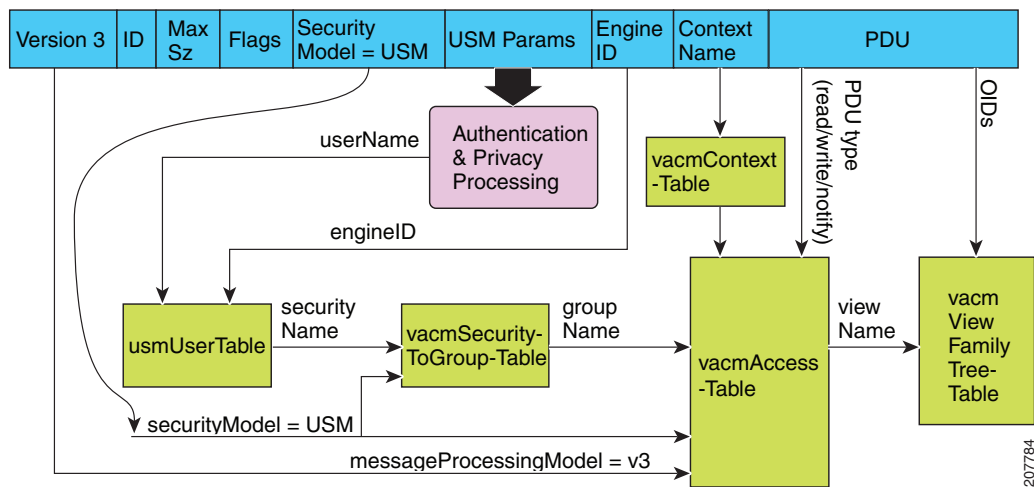
Figure D-1 SNMPv1 and v2c Coexistence Message Processing



SNMPv3 Message Processing

Figure D-2 shows SNMPv3 PDU (Protocol Data Unit) with USM (user-based security model).

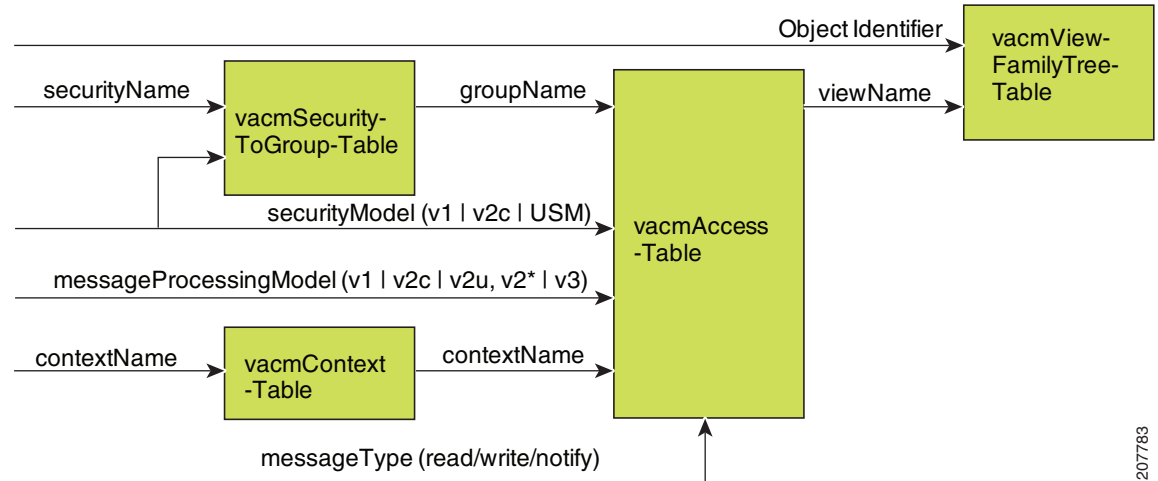
Figure D-2 SNMPv3 Message Processing



SNMPv3 View-Based Access Control Model

Figure D-3 shows the SNMPv3 View-Based Access Control Model.

Figure D-3 *SNMPv3 View-Based Access Control Model*



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SNMPv1/v2 Community Configuration to Tables Mappings

SNMPv1/v2 community config

Example configuration command used for the following tables: **snmp-server view tim2 RW**



Note

The first row of [Table D-2](#) is a table index.

[Table D-2](#) is a summary of SNMPv1/v2 community config for SNMP-COMMUNITY-MIB

Table D-2 *SNMP-COMMUNITY-MIB: snmpCommunityTable*

SNMP-COMMUNITY-MIB:: snmpCommunityTable (causes row creation)	
Configuration	Sample Output
snmpCommunityName	"tim2"
snmpCommunitySecurityName	"tim2"
snmpCommunityContextEngineID	<localEngineID>
snmpCommunityContextName	" "
snmpCommunityTransportTag	" "

**Note**

The first four rows of [Table D-3](#) are table indexes.

[Table D-3](#) is a summary of SNMPv1/v2 community config for SNMP-VACM-MIB

Table D-3 *SNMP-VACM-MIB: vacmAccessEntry*

SNMP-VACM-MIB:: vacmAccessEntry (causes row creation)	
Configuration	Sample Output
vacmGroupName	"test-group"
vacmContextPrefix	""
vacmSecurityModel	1 and 2 (v1 and v2)
vacmSecurityLevel	1 (noAuthNoPriv)
vacmAccessReadViewName	"v1default"
vacmAccessWriteViewName	"v1default"
vacmAccessNotifyViewName	"v1default"

[Table D-4](#) is a summary of SNMPv1/v2 community config for SNMP-VACM-MIB

**Note**

The first two rows of [Table D-4](#) are table indexes.

Table D-4 *SNMP-VACM-MIB: vacmSecurityToGroupEntry*

SNMP-VACM-MIB:: vacmSecuritytoGroupEntry (causes row creation)	
Configuration	Sample Output
vacmSecurityModel	1 and 2 (v1 and v2)
vacmSecurityName	"tim2"
vacmGroupName	"tim2"

SNMPv3 Configuration to Tables Mappings

SNMPv3 user config

Example configuration command used for the following tables: **snmp-server user tim test-group v3**



Note

The first two rows of [Table D-5](#) and [Table D-6](#) are table indexes.

[Table D-5](#) is a summary of SNMPv3 user config for SNMP-USM-MIB

Table D-5 *SNMP-USM-MIB: usmUserEntry*

SNMP-USM-MIB:: usmUserEntry (causes row creation)	
Configuration	Sample Output
usmUserEngineID	<localEngineID>
usmUserName	"tim"
usmUserSecurityName	"tim"
usmUserPrivProtocol	usmNoPrivProtocol
usmUserAuthProtocol	usmNoAuthProtocol

[Table D-6](#) is a summary of SNMPv3 user config for SNMP-VACM-MIB

Table D-6 *SNMP-VACM-MIB: vacmSecurityToGroupEntry*

SNMP-VACM-MIB:: vacmSecurityToGroupEntry (causes row creation)	
Configuration	Sample Output
vacmSecurityModel	3
vacmSecurityName	"tim"
vacmGroupName	"test-group"

SNMPv3 group config

Example configuration command used for [Table D-7](#): `snmp-server group test_group v3 noauth notify test-view read test-view write test-view`



Note

The first four rows of [Table D-7](#) are table indexes.

[Table D-7](#) is a summary of SNMPv3 group config for SNMP-VACM-MIB

Table D-7 SNMP-VACM-MIB: vacmAccessEntry

SNMP-VACM-MIB:: vacmAccessEntry (causes row creation)	
Configuration	Sample Output
vacmGroupName	“test-group”
vacmConextPrefix	“”
vacmSecurityModel	3 (v3)
vacmSecurityLevel	1 (noAuthNoPriv)
vacmAccessReadViewName	“test-view”
vacmAccessWriteViewName	“test-view”
vacmAccessNotifyViewName	“”

SNMPv3 view config

Example configuration command used for [Table D-8](#): `snmp-server view test-view internet included`



Note

The first two rows of [Table D-8](#) are table indexes.

[Table D-8](#) is a summary of SNMPv3 group config for SNMP-USM-MIB

Table D-8 SNMP-USM-MIB: vacmViewTreeFamilyEntry

SNMP-VACM-MIB:: vacmViewTreeFamilyEntry (causes row creation)	
Configuration	Sample Output
vacmViewTreeFamilyViewName	“test-view”
vacmViewTreeFamilySubtree	.1.3.6.1 (OID = internet)
vacmViewTreeFamilyMask	“”
vacmViewTreeFamilyType	included