MIB Specification for GDOI Protocol

By

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GDOI MIB Draft

- Defines a high level Management Information Base for Group Domain of Interpretation (RFC 3547)
- GDOI is used to establish secure group communications in IPSec VPNs.

Why standardize GDOI MIB

- GDOI is a standard (RFC 3547)
- Management is a very important aspect for the administrators
- Using a standardized GDOI MIB will help manage devices independent of vendor who manufactured the devices.

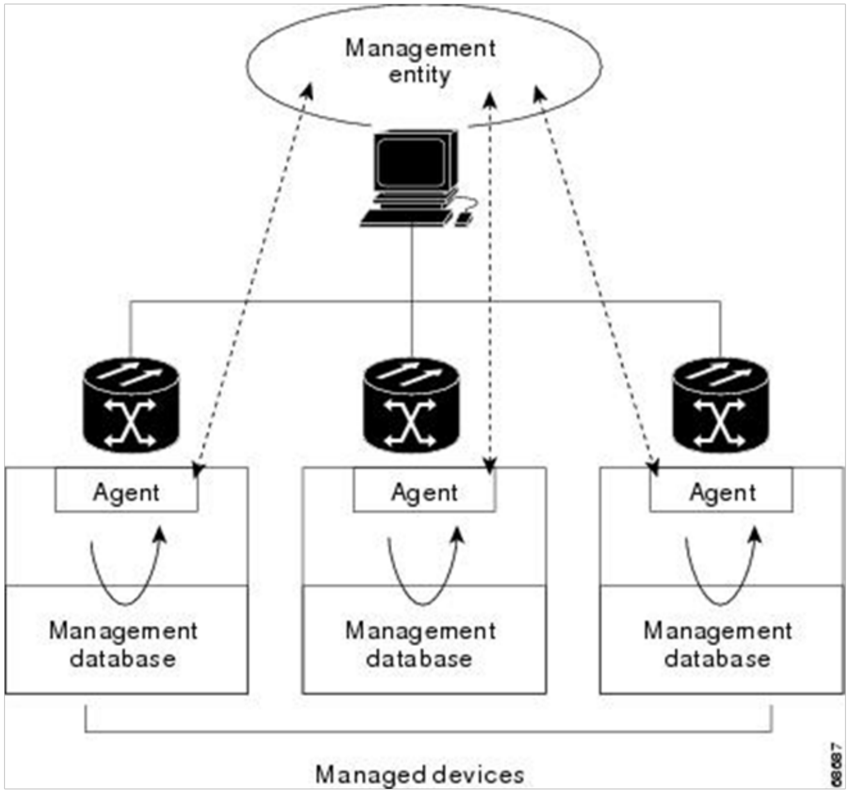
SNMP Components

- **Agent** : Software module that resides in a managed device and respond to manager requests for data object values and send notifications to managers.
- **Managed Device**: A network node that contains an SNMP agent and resides on a managed network.
- **Management entity/Managers**: responsible for communicating with networked devices that implement SNMP agents.

SNMP Components (cont)

- **MIB** describes data objects and notification objects to be managed by an agent within a device

SNMP Components



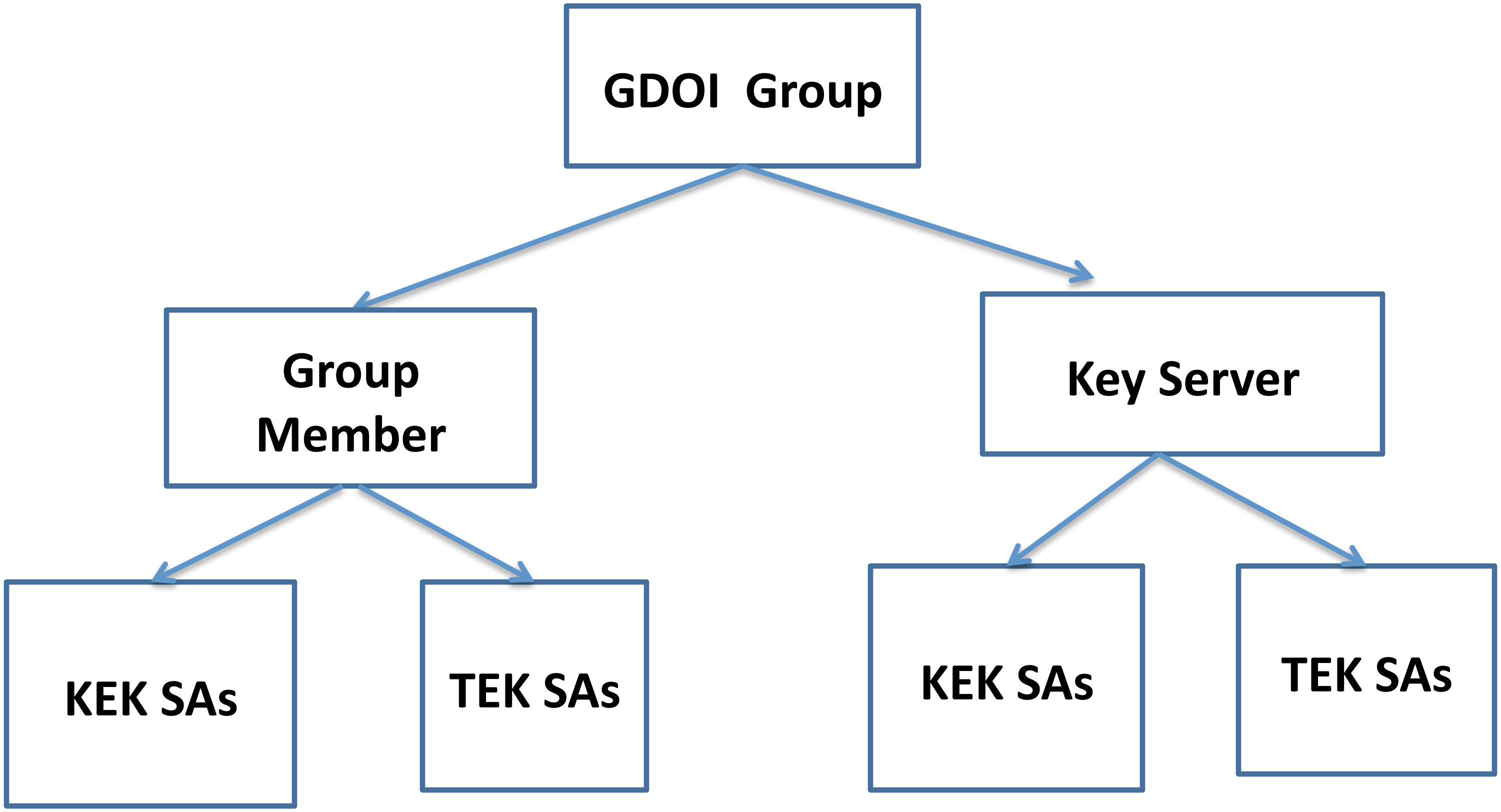
GDOI Definitions/Terminology

- **Group**: Uniquely identified by group identity and defines group security policies
- **Group Member** : Entity that registers to the Key server to download the policies
- **Group controller/Key Server** : Entity that holds the policies of the group and sends rekeys on new policies to the Group Members

GDOI Definitions/Terminology (cont)

- **GDOI** : protocol that runs between a group member and key server and establishes security associations among authorized group members
- **TEK** : Traffic Encrypting Key
- **KEK** : Key Encrypting Key

Structure of GDOI MIB Module



GDOI Group

Group Member

Key Server

KEK SAs

TEK SAs

KEK SAs

TEK SAs

Tables Defined

- **Group Table**(gdoiGroupTable) – Sequence of GdoiGroupEntry
- **Key Server Table** (gdoiKeyServerTable) - Sequence of GdoiKeyServerEntry
- **Group Members Table** (gdoiGmTable) – Sequence of GdoiGmEntry

Tables (cont.)

- **Key Server KEK policy Table**(gdoiKsKekTable) – Sequence of GdoiKsKekEntry
- **Key Server TEK Policy Table** (gdoiKsTekTable) – Sequence of GdoiKsTekEntry
- **Group Member KEK policy Table** (gdoiGmKekTable) – Sequence of GdoiGmKekEntry
- **Group Member TEK Policy Table** (gdoiGmTekTable) – Sequence of

Key Server Notifications

- gdoiKeyServerNewRegistration
- gdoiKeyServerRegistrationComplete
- gdoiKeyServerRekeyPushed
- gdoiKeyServerNoAuthenticationKeys

Group Member Notifications

- gdoiGmRegister
- gdoiGmRegistrationComplete
- gdoiGmReRegister
- gdoiGmRekeyReceived
- gdoiGmIncompleteCfg
- gdoiGmNoIpsecFlow
- gdoiGmRekeyFailure

Request

- Is this WG willing to take on this work ?