Chapter 35
SNMP Multiplexing (SMUX)

35.1 SMUX Overview

When the `smux` clause is used, GateD will attempt to contact an SNMP master-agent on the local host via the SMUX (SNMP Multiplexing) protocol over TCP. The SMUX protocol is described in RFC 1227.

Version 9.2 of GateD supports SMUX as the only way to interact with the MIB modules. Only SNMP version 1 is supported, and all MIB variables are read-only. Prior versions of GateD included an embedded standalone SNMP agent; this was removed in the 9.0 code base.

Upon contacting the master agent, a string password and SNMP Object Identifier identity are passed for authentication purposes. If the authentication succeeds, GateD will register the routing MIB subtrees and request that it be contacted when the master agent receives queries for these subtrees. When the master agent receives such a query from a management station, it will be passed to GateD.

The GET and GETNEXT operations are both supported.

35.2 SMUX Syntax

```
smux ( on | off )
[ {
    traceoptions smuxtraceoptions ;
    port smuxport ;
    password string ;
} ] ;
```

More detailed descriptions of these commands can be found on page 709 of the *Command Reference Guide*.

35.3 SNMP Query Examples

GateD uses a hard-coded identity of .1.3.6.1.4.1.4.3.1.4. After GateD has been started and has connected to a master agent, it will respond to queries that fall within its supported MIBs. For example, using the ucd-snmp `snmpget` utility, the following command would retrieve the variable *bgp.bgpLocalAs*, if both GateD and the master agent were running on the local machine, using version-1 SNMP.

```
snmpget -v 1 localhost public 15.2.0
```

This sends an SNMP GET to the local master agent, which in turn queries GateD for the value. For SNMP tables, the `snmpwalk` utility can be used to walk an entire table, using GET-NEXTs. Here is an example command to walk the entire BGP Peer Table for the peer address 192.168.10.1:

```
snmpwalk -v 1 localhost public 15.3.1.1.192.168.10.1
```

35.4 SMUX Sample Configurations

35.4.1 Simple Configuration

GateD is known to interoperate with the ucd-snmp "snmpd" agent. The following is a simple configuration that allows snmpd to pass SNMP queries to gated via SMUX.

```
smux on {
    traceoptions "/tmp/smuxlog" all ;
    password "gated";
};
```

35.4.2 Simple Configuration with Port

The master agent may be listening for SMUX connections on a different port than the registered port of 199. It is possible to configure GateD to attempt the connection on a user-specified port.

```
smux on {
    traceoptions "/tmp/smuxlog" all;
    port 2112 ;
};
```