## NAME

smiGetType, smiGetFirstType, smiGetNextType, smiGetParentType, smiGetTypeLine, smiGetFirstRange, smiGetNextRange, smiGetFirstNamedNumber, smiGetNextNamedNumber, smiGetTypeModule − SMI type information routines

## SYNOPSIS

**#include <smi.h>**

**SmiType *smiGetType(SmiModule ***smiModulePtr***, char ***type***);**

**SmiType *smiGetFirstType(SmiModule ***smiModulePtr***);**

**SmiType *smiGetNextType(SmiType ***smiTypePtr***);**

**SmiType *smiGetParentType(SmiType ***smiTypePtr***);**

**int smiGetTypeLine(SmiType ***smiTypePtr***);**

**SmiRange *smiGetFirstRange(SmiType ***smiTypePtr***);**

**SmiRange *smiGetNextRange(SmiRange ***smiRangePtr***);**

**SmiNamedNumber *smiGetFirstNamedNumber(SmiType ***smiTypePtr***);**

**SmiNamedNumber *smiGetNextNamedNumber(SmiNamedNumber ***smiNamedNumberPtr***);**

**SmiModule *smiGetTypeModule(SmiType ***smiTypePtr***);**

```
typedef struct SmiType {
  SmiIdentifier      name;
  SmiBasetype        basetype;
  SmiDecl            decl;
  char               *format;
  SmiValue           value;
  char               *units;
  SmiStatus          status;
  char               *description;
  char               *reference;
} SmiType;

typedef struct SmiNamedNumber {
  SmiIdentifier      name;
  SmiValue           value;
} SmiNamedNumber;

typedef struct SmiRange {
  SmiValue           minValue;
  SmiValue           maxValue;
} SmiRange;
```

## DESCRIPTION

These functions retrieve information on a type definition (SMIng) or a simple ASN.1 type definition (SMIv1/v2) or a TEXTUAL-CONVENTION definition (SMIv2). Base types may also be retrieved by these functions.

The **smiGetType()** function retrieves a **struct SmiType** that represents a type. *Type* may be either a fully qualified descriptor or a simple type name. If *smiModulePtr* is not NULL it used to limit the search to the given module. If the type is not found, **smiGetType()** returns NULL.

The **smiGetFirstType()** and **smiGetNextType()** functions are used to iteratively retrieve **struct**



**SmiType**s. **smiGetFirstType()** returns the first one defined in the module specified by *smiModulePtr*. Subsequent calls to **smiGetNextType()** return the following ones. If there are no more type definitions in the module NULL is returned.

The **smiGetParentType()** function retrieves a **struct SmiType** of the type from which the type specified by *smiTypePtr* is derived. If there is no parent type (i.e. the type specified by *smiTypePtr* is a base type), **smiGetParentType()** returns NULL.

Similarly, the **smiGetFirstRange()** and **smiGetNextRange()** functions are used to iteratively retrieve **struct SmiRange**s that represent range restrictions of the type specified by *smiTypePtr*, either size ranges of an octet string type or value ranges in case of a numeric type.

Similarly, the **smiGetFirstNamedNumber()** and **smiGetNextNamedNumber()** functions are used to iteratively retrieve **struct SmiNamedNumber**s that represent named numbers of the type specified by *smiTypePtr*, which has to be either a bit set or an enumeration type.

The **smiGetTypeModule()** function returns the module that defines the type given by *struct SmiTypePtr*.

The **smiGetTypeLine()** function returns the line number within the module where the type specified by *smiTypePtr* is defined.

## FILES

${prefix}/include/smi.h SMI library header file

## SEE ALSO

**libsmi**(3), **smi_module**(3), **smi.h**

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