

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**



SmiTypes. **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 SmiRanges** 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 SmiNamedNumbers** 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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