**sc_dt**::**sc_bv**

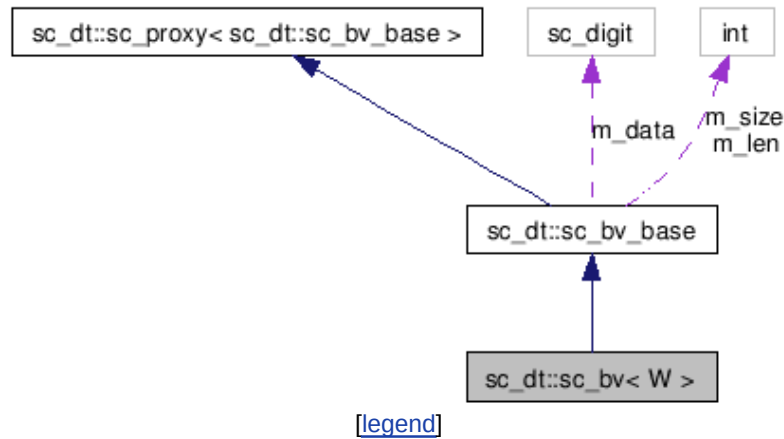# sc_dt::sc_bv< W > Class Template Reference

`#include <`**`sysc/datatypes/bit/sc_bv.h`**`>`

Inheritance diagram for sc_dt::sc_bv< W >:



[legend]
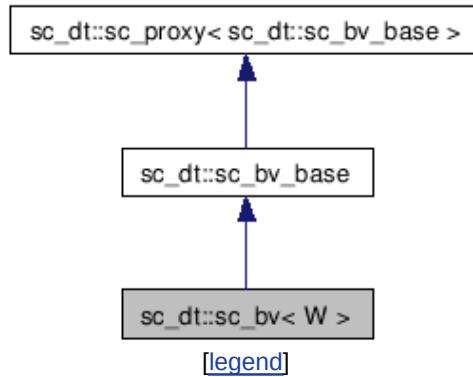
Collaboration diagram for sc_dt::sc_bv< W >:



[legend]

List of all members.

## Public Types

| | |
|---|---|
| typedef **sc_proxy**< **sc_bv_base** > | **base_type** |

## Public Member Functions

| | |
|---|---|
| **sc_bv** () |
| **sc_bv** (bool init_value) |
| **sc_bv** (char init_value) |
| **sc_bv** (const char *a) |

| | | |
|---|---|---|
| | | **sc_bv** (const bool *a) |
| | | **sc_bv** (const **sc_logic** *a) |
| | | **sc_bv** (const **sc_unsigned** &a) |
| | | **sc_bv** (const **sc_signed** &a) |
| | | **sc_bv** (const **sc_uint_base** &a) |
| | | **sc_bv** (const **sc_int_base** &a) |
| | | **sc_bv** (unsigned long a) |
| | | **sc_bv** (long a) |
| | | **sc_bv** (unsigned int a) |
| | | **sc_bv** (int a) |
| | | **sc_bv** (**uint64** a) |
| | | **sc_bv** (**int64** a) |
| template<class X> | | |
| | | **sc_bv** (const **sc_proxy**< X > &a) |
| | | **sc_bv** (const **sc_bv**< W > &a) |
| template<class X> | | |
| | **sc_bv**< W > & | **operator=** (const **sc_proxy**< X > &a) |
| | **sc_bv**< W > & | **operator=** (const **sc_bv**< W > &a) |
| | **sc_bv**< W > & | **operator=** (const char *a) |
| | **sc_bv**< W > & | **operator=** (const bool *a) |
| | **sc_bv**< W > & | **operator=** (const **sc_logic** *a) |
| | **sc_bv**< W > & | **operator=** (const **sc_unsigned** &a) |
| | **sc_bv**< W > & | **operator=** (const **sc_signed** &a) |
| | **sc_bv**< W > & | **operator=** (const **sc_uint_base** &a) |
| | **sc_bv**< W > & | **operator=** (const **sc_int_base** &a) |
| | **sc_bv**< W > & | **operator=** (unsigned long a) |
| | **sc_bv**< W > & | **operator=** (long a) |
| | **sc_bv**< W > & | **operator=** (unsigned int a) |
| | **sc_bv**< W > & | **operator=** (int a) |
| | **sc_bv**< W > & | **operator=** (**uint64** a) |
| | **sc_bv**< W > & | **operator=** (**int64** a) |
| | int | **length** () const |
| | int | **size** () const |
| | **sc_logic_value_t** | **get_bit** (int i) const |
| | void | **set_bit** (int i, **sc_logic_value_t value**) |
| | **sc_digit** | **get_word** (int i) const |
| | void | **set_word** (int i, **sc_digit** w) |
| | **sc_digit** | **get_cword** (int i) const |
| | void | **set_cword** (int i, **sc_digit** w) |
| | void | **clean_tail** () |
| | bool | **is_01** () const |
| | X & | **back_cast** () |
| | const X & | **back_cast** () const |
| template<class Y> | | |
| | X & | **assign_** (const **sc_proxy**< Y > &a) |
| | X & | **assign_** (const char *a) |
| | X & | **assign_** (const bool *a) |
| | X & | **assign_** (const **sc_logic** *a) |
| | X & | **assign_** (const **sc_unsigned** &a) |
| | X & | **assign_** (const **sc_signed** &a) |
| | X & | **assign_** (const **sc_uint_base** &a) |

| | | |
|---:|:---|:---|
| X & | **assign_** | (const **sc_int_base** &a) |
| X & | **assign_** | (unsigned int a) |
| X & | **assign_** | (int a) |
| X & | **assign_** | (unsigned long a) |
| X & | **assign_** | (long a) |
| X & | **assign_** | (**uint64** a) |
| X & | **assign_** | (**int64** a) |
| X & | **b_not** | () |
| const **sc_lv_base** | **operator~** | () const |
| X & | **operator &=** | (const char *b) |
| X & | **operator &=** | (const bool *b) |
| X & | **operator &=** | (const **sc_logic** *b) |
| X & | **operator &=** | (const **sc_unsigned** &b) |
| X & | **operator &=** | (const **sc_signed** &b) |
| X & | **operator &=** | (const **sc_uint_base** &b) |
| X & | **operator &=** | (const **sc_int_base** &b) |
| X & | **operator &=** | (unsigned long b) |
| X & | **operator &=** | (long b) |
| X & | **operator &=** | (unsigned int b) |
| X & | **operator &=** | (int b) |
| X & | **operator &=** | (**uint64** b) |
| X & | **operator &=** | (**int64** b) |
| const **sc_lv_base** | **operator &** | (const char *b) const |
| const **sc_lv_base** | **operator &** | (const bool *b) const |
| const **sc_lv_base** | **operator &** | (const **sc_logic** *b) const |
| const **sc_lv_base** | **operator &** | (const **sc_unsigned** &b) const |
| const **sc_lv_base** | **operator &** | (const **sc_signed** &b) const |
| const **sc_lv_base** | **operator &** | (const **sc_uint_base** &b) const |
| const **sc_lv_base** | **operator &** | (const **sc_int_base** &b) const |
| const **sc_lv_base** | **operator &** | (unsigned long b) const |
| const **sc_lv_base** | **operator &** | (long b) const |
| const **sc_lv_base** | **operator &** | (unsigned int b) const |
| const **sc_lv_base** | **operator &** | (int b) const |
| const **sc_lv_base** | **operator &** | (**uint64** b) const |
| const **sc_lv_base** | **operator &** | (**int64** b) const |
| X & | **operator\|=** | (const char *b) |
| X & | **operator\|=** | (const bool *b) |
| X & | **operator\|=** | (const **sc_logic** *b) |
| X & | **operator\|=** | (const **sc_unsigned** &b) |
| X & | **operator\|=** | (const **sc_signed** &b) |
| X & | **operator\|=** | (const **sc_uint_base** &b) |
| X & | **operator\|=** | (const **sc_int_base** &b) |
| X & | **operator\|=** | (unsigned long b) |
| X & | **operator\|=** | (long b) |
| X & | **operator\|=** | (unsigned int b) |
| X & | **operator\|=** | (int b) |
| X & | **operator\|=** | (**uint64** b) |
| X & | **operator\|=** | (**int64** b) |
| const **sc_lv_base** | **operator\|** | (const char *b) const |
| const **sc_lv_base** | **operator\|** | (const bool *b) const |

| | |
|---:|:---|
| const **sc_lv_base** | **operator\|** (const **sc_logic** *b) const |
| const **sc_lv_base** | **operator\|** (const **sc_unsigned** &b) const |
| const **sc_lv_base** | **operator\|** (const **sc_signed** &b) const |
| const **sc_lv_base** | **operator\|** (const **sc_uint_base** &b) const |
| const **sc_lv_base** | **operator\|** (const **sc_int_base** &b) const |
| const **sc_lv_base** | **operator\|** (unsigned long b) const |
| const **sc_lv_base** | **operator\|** (long b) const |
| const **sc_lv_base** | **operator\|** (unsigned int b) const |
| const **sc_lv_base** | **operator\|** (int b) const |
| const **sc_lv_base** | **operator\|** (**uint64** b) const |
| const **sc_lv_base** | **operator\|** (**int64** b) const |
| X & | **operator^=** (const char *b) |
| X & | **operator^=** (const bool *b) |
| X & | **operator^=** (const **sc_logic** *b) |
| X & | **operator^=** (const **sc_unsigned** &b) |
| X & | **operator^=** (const **sc_signed** &b) |
| X & | **operator^=** (const **sc_uint_base** &b) |
| X & | **operator^=** (const **sc_int_base** &b) |
| X & | **operator^=** (unsigned long b) |
| X & | **operator^=** (long b) |
| X & | **operator^=** (unsigned int b) |
| X & | **operator^=** (int b) |
| X & | **operator^=** (**uint64** b) |
| X & | **operator^=** (**int64** b) |
| const **sc_lv_base** | **operator^** (const char *b) const |
| const **sc_lv_base** | **operator^** (const bool *b) const |
| const **sc_lv_base** | **operator^** (const **sc_logic** *b) const |
| const **sc_lv_base** | **operator^** (const **sc_unsigned** &b) const |
| const **sc_lv_base** | **operator^** (const **sc_signed** &b) const |
| const **sc_lv_base** | **operator^** (const **sc_uint_base** &b) const |
| const **sc_lv_base** | **operator^** (const **sc_int_base** &b) const |
| const **sc_lv_base** | **operator^** (unsigned long b) const |
| const **sc_lv_base** | **operator^** (long b) const |
| const **sc_lv_base** | **operator^** (unsigned int b) const |
| const **sc_lv_base** | **operator^** (int b) const |
| const **sc_lv_base** | **operator^** (**uint64** b) const |
| const **sc_lv_base** | **operator^** (**int64** b) const |
| X & | **operator<<=** (int n) |
| const **sc_lv_base** | **operator<<** (int n) const |
| X & | **operator>>=** (int n) |
| const **sc_lv_base** | **operator>>** (int n) const |
| X & | **lrotate** (int n) |
| X & | **rrotate** (int n) |
| X & | **reverse** () |
| **sc_bitref**< X > | **operator[]** (int i) |
| **sc_bitref_r**< X > | **operator[]** (int i) const |
| **sc_bitref**< X > | **bit** (int i) |
| **sc_bitref_r**< X > | **bit** (int i) const |
| **sc_subref**< X > | **operator()** (int hi, int lo) |
| **sc_subref_r**< X > | **operator()** (int hi, int lo) const |

| | | |
|---:|:---|:---|
| sc_subref< X > | range | (int hi, int lo) |
| sc_subref_r< X > | range | (int hi, int lo) const |
| sc_logic_value_t | and_reduce | () const |
| sc_logic_value_t | nand_reduce | () const |
| sc_logic_value_t | or_reduce | () const |
| sc_logic_value_t | nor_reduce | () const |
| sc_logic_value_t | xor_reduce | () const |
| sc_logic_value_t | xnor_reduce | () const |
| bool | operator== | (const char *b) const |
| bool | operator== | (const bool *b) const |
| bool | operator== | (const sc_logic *b) const |
| bool | operator== | (const sc_unsigned &b) const |
| bool | operator== | (const sc_signed &b) const |
| bool | operator== | (const sc_uint_base &b) const |
| bool | operator== | (const sc_int_base &b) const |
| bool | operator== | (unsigned long b) const |
| bool | operator== | (long b) const |
| bool | operator== | (unsigned int b) const |
| bool | operator== | (int b) const |
| bool | operator== | (uint64 b) const |
| bool | operator== | (int64 b) const |
| const std::string | to_string | () const |
| const std::string | to_string | (sc_numrep) const |
| const std::string | to_string | (sc_numrep, bool) const |
| int64 | to_int64 | () const |
| uint64 | to_uint64 | () const |
| int | to_int | () const |
| unsigned int | to_uint | () const |
| long | to_long | () const |
| unsigned long | to_ulong | () const |
| void | print | (::std::ostream &os=::std::cout) const |
| void | scan | (::std::istream &is=::std::cin) |

## Protected Member Functions

| | | |
|---:|:---|:---|
| void | check_bounds | (int n) const |
| void | check_wbounds | (int n) const |
| sc_digit | to_anything_unsigned | () const |
| int64 | to_anything_signed | () const |

## Protected Attributes

| | |
|---:|:---|
| int | m_len |
| int | m_size |
| sc_digit * | m_data |

## Detailed Description

**template<int W>**

**class sc_dt::sc_bv< W >**

Definition at line **66** of file **sc_bv.h**.

---

## Member Typedef Documentation

**typedef sc_proxy<sc_bv_base> sc_dt::sc_bv_base::base_type [inherited]**

Definition at line **82** of file **sc_bv_base.h**.

---

## Constructor & Destructor Documentation

template<int W>
**sc_dt::sc_bv< W >::sc_bv ( ) [inline]**

Definition at line **73** of file **sc_bv.h**.

template<int W>
**sc_dt::sc_bv< W >::sc_bv ( bool *init_value* ) [inline, explicit]**

Definition at line **77** of file **sc_bv.h**.

template<int W>
**sc_dt::sc_bv< W >::sc_bv ( char *init_value* ) [inline, explicit]**

Definition at line **81** of file **sc_bv.h**.

template<int W>
**sc_dt::sc_bv< W >::sc_bv ( const char * *a* ) [inline]**

Definition at line **85** of file **sc_bv.h**.

template<int W>
**sc_dt::sc_bv< W >::sc_bv ( const bool * *a* ) [inline]**

Definition at line **89** of file **sc_bv.h**.

template<int W>
**sc_dt::sc_bv< W >::sc_bv ( const sc_logic * *a* ) [inline]**

Definition at line **93** of file **sc_bv.h**.

template<int W>
**sc_dt::sc_bv< W >::sc_bv ( const sc_unsigned & *a* ) [inline]**

Definition at line **97** of file **sc_bv.h**.

---

template<int W>
**sc_dt::sc_bv< W >::sc_bv ( const sc_signed & *a* ) [inline]**

Definition at line **101** of file **sc_bv.h**.

---

template<int W>
**sc_dt::sc_bv< W >::sc_bv ( const sc_uint_base & *a* ) [inline]**

Definition at line **105** of file **sc_bv.h**.

---

template<int W>
**sc_dt::sc_bv< W >::sc_bv ( const sc_int_base & *a* ) [inline]**

Definition at line **109** of file **sc_bv.h**.

---

template<int W>
**sc_dt::sc_bv< W >::sc_bv ( unsigned long *a* ) [inline]**

Definition at line **113** of file **sc_bv.h**.

---

template<int W>
**sc_dt::sc_bv< W >::sc_bv ( long *a* ) [inline]**

Definition at line **117** of file **sc_bv.h**.

---

template<int W>
**sc_dt::sc_bv< W >::sc_bv ( unsigned int *a* ) [inline]**

Definition at line **121** of file **sc_bv.h**.

---

template<int W>
**sc_dt::sc_bv< W >::sc_bv ( int *a* ) [inline]**

Definition at line **125** of file **sc_bv.h**.

---

template<int W>
**sc_dt::sc_bv< W >::sc_bv ( uint64 *a* ) [inline]**

Definition at line **129** of file **sc_bv.h**.

---

template<int W>
**sc_dt::sc_bv< W >::sc_bv ( int64** *a* **)** `[inline]`

Definition at line **133** of file **sc_bv.h**.

---

template<int W>
template<class X>
**sc_dt::sc_bv< W >::sc_bv ( const sc_proxy< X > &** *a* **)** `[inline]`

Definition at line **138** of file **sc_bv.h**.

---

template<int W>
**sc_dt::sc_bv< W >::sc_bv ( const sc_bv< W > &** *a* **)** `[inline]`

Definition at line **142** of file **sc_bv.h**.

---

## Member Function Documentation

template<int W>
template<class X>
**sc_bv<W>& sc_dt::sc_bv< W >::operator= ( const sc_proxy< X > &** *a* **)** `[inline]`

Reimplemented from **sc_dt::sc_bv_base**.

Definition at line **150** of file **sc_bv.h**.

---

template<int W>
**sc_bv<W>& sc_dt::sc_bv< W >::operator= ( const sc_bv< W > &** *a* **)** `[inline]`

Definition at line **153** of file **sc_bv.h**.

---

template<int W>
**sc_bv<W>& sc_dt::sc_bv< W >::operator= ( const char *** *a* **)** `[inline]`

Reimplemented from **sc_dt::sc_bv_base**.

Definition at line **156** of file **sc_bv.h**.

---

template<int W>
**sc_bv<W>& sc_dt::sc_bv< W >::operator= ( const bool *** *a* **)** `[inline]`

Reimplemented from **sc_dt::sc_bv_base**.

Definition at line **159** of file **sc_bv.h**.

---

template<int W>
**sc_bv<W>& sc_dt::sc_bv< W >::operator= ( const sc_logic * *a* ) [inline]**

Reimplemented from **sc_dt::sc_bv_base**.

Definition at line **162** of file **sc_bv.h**.

---

template<int W>
**sc_bv<W>& sc_dt::sc_bv< W >::operator= ( const sc_unsigned & *a* ) [inline]**

Reimplemented from **sc_dt::sc_bv_base**.

Definition at line **165** of file **sc_bv.h**.

---

template<int W>
**sc_bv<W>& sc_dt::sc_bv< W >::operator= ( const sc_signed & *a* ) [inline]**

Reimplemented from **sc_dt::sc_bv_base**.

Definition at line **168** of file **sc_bv.h**.

---

template<int W>
**sc_bv<W>& sc_dt::sc_bv< W >::operator= ( const sc_uint_base & *a* ) [inline]**

Reimplemented from **sc_dt::sc_bv_base**.

Definition at line **171** of file **sc_bv.h**.

---

template<int W>
**sc_bv<W>& sc_dt::sc_bv< W >::operator= ( const sc_int_base & *a* ) [inline]**

Reimplemented from **sc_dt::sc_bv_base**.

Definition at line **174** of file **sc_bv.h**.

---

template<int W>
**sc_bv<W>& sc_dt::sc_bv< W >::operator= ( unsigned long *a* ) [inline]**

Reimplemented from **sc_dt::sc_bv_base**.

Definition at line **177** of file **sc_bv.h**.

template<int W>
**sc_bv<W>& sc_dt::sc_bv< W >::operator= ( long** *a* **)** `[inline]`

Reimplemented from **sc_dt::sc_bv_base**.

Definition at line **180** of file **sc_bv.h**.

---

template<int W>
**sc_bv<W>& sc_dt::sc_bv< W >::operator= ( unsigned int** *a* **)** `[inline]`

Reimplemented from **sc_dt::sc_bv_base**.

Definition at line **183** of file **sc_bv.h**.

---

template<int W>
**sc_bv<W>& sc_dt::sc_bv< W >::operator= ( int** *a* **)** `[inline]`

Reimplemented from **sc_dt::sc_bv_base**.

Definition at line **186** of file **sc_bv.h**.

---

template<int W>
**sc_bv<W>& sc_dt::sc_bv< W >::operator= ( uint64** *a* **)** `[inline]`

Reimplemented from **sc_dt::sc_bv_base**.

Definition at line **189** of file **sc_bv.h**.

---

template<int W>
**sc_bv<W>& sc_dt::sc_bv< W >::operator= ( int64** *a* **)** `[inline]`

Reimplemented from **sc_dt::sc_bv_base**.

Definition at line **192** of file **sc_bv.h**.

---

**int sc_dt::sc_bv_base::length ( ) const** `[inline, inherited]`

Definition at line **222** of file **sc_bv_base.h**.

---

**int sc_dt::sc_bv_base::size ( ) const** `[inline, inherited]`

Definition at line **225** of file **sc_bv_base.h**.

**sc_logic_value_t sc_dt::sc_bv_base::get_bit ( int *i* ) const** `[inline, inherited]`

Definition at line **290** of file **sc_bv_base.h**.

---

**void sc_dt::sc_bv_base::set_bit ( int**               *i,*

                         **sc_logic_value_t** *value*

                   **)**             `[inline, inherited]`

Definition at line **299** of file **sc_bv_base.h**.

---

**sc_digit sc_dt::sc_bv_base::get_word ( int *i* ) const** `[inline, inherited]`

Definition at line **231** of file **sc_bv_base.h**.

---

**void sc_dt::sc_bv_base::set_word ( int**       *i,*

                  **sc_digit** *w*

                  **)**         `[inline, inherited]`

Definition at line **234** of file **sc_bv_base.h**.

---

**sc_digit sc_dt::sc_bv_base::get_cword ( int *i* ) const** `[inline, inherited]`

Definition at line **237** of file **sc_bv_base.h**.

---

**void sc_dt::sc_bv_base::set_cword ( int**       *i,*

                  **sc_digit** *w*

                  **)**        `[inline, inherited]`

Definition at line **311** of file **sc_bv_base.h**.

---

**void sc_dt::sc_bv_base::clean_tail ( )** `[inline, inherited]`

Definition at line **321** of file **sc_bv_base.h**.

---

**bool sc_dt::sc_bv_base::is_01 ( ) const** `[inline, inherited]`

Definition at line **247** of file **sc_bv_base.h**.

---

template<class X>

**X& sc_dt::sc_proxy< X >::back_cast ( )** `[inline, inherited]`

Definition at line **135** of file **sc_proxy.h**.

---

template<class X>
**const X& sc_dt::sc_proxy< X >::back_cast ( ) const** `[inline, inherited]`

Definition at line **138** of file **sc_proxy.h**.

---

template<class X>
template<class Y>
**X& sc_dt::sc_proxy< X >::assign_ ( const sc_proxy< Y > & *a* )** `[inline, inherited]`

Definition at line **145** of file **sc_proxy.h**.

---

template<class X>
**X & sc_dt::sc_proxy< X >::assign_ ( const char * *a* )** `[inline, inherited]`

Definition at line **790** of file **sc_proxy.h**.

---

template<class X>
**X & sc_dt::sc_proxy< X >::assign_ ( const bool * *a* )** `[inline, inherited]`

Definition at line **814** of file **sc_proxy.h**.

---

template<class X>
**X & sc_dt::sc_proxy< X >::assign_ ( const sc_logic * *a* )** `[inline, inherited]`

Definition at line **828** of file **sc_proxy.h**.

---

template<class X>
**X& sc_dt::sc_proxy< X >::assign_ ( const sc_unsigned & *a* )** `[inline, inherited]`

Definition at line **152** of file **sc_proxy.h**.

---

template<class X>
**X& sc_dt::sc_proxy< X >::assign_ ( const sc_signed & *a* )** `[inline, inherited]`

Definition at line **155** of file **sc_proxy.h**.

---

template<class X>
**X& sc_dt::sc_proxy< X >::assign_ ( const sc_uint_base & *a* )** `[inline, inherited]`

Definition at line **158** of file **sc_proxy.h**.

---

template<class X>
**X& sc_dt::sc_proxy< X >::assign_ ( const sc_int_base & *a* ) [inline, inherited]**

Definition at line **161** of file **sc_proxy.h**.

---

template<class X>
**X & sc_dt::sc_proxy< X >::assign_ ( unsigned int *a* ) [inline, inherited]**

Definition at line **842** of file **sc_proxy.h**.

---

template<class X>
**X & sc_dt::sc_proxy< X >::assign_ ( int *a* ) [inline, inherited]**

Definition at line **855** of file **sc_proxy.h**.

---

template<class X>
**X & sc_dt::sc_proxy< X >::assign_ ( unsigned long *a* ) [inline, inherited]**

Definition at line **906** of file **sc_proxy.h**.

---

template<class X>
**X & sc_dt::sc_proxy< X >::assign_ ( long *a* ) [inline, inherited]**

Definition at line **919** of file **sc_proxy.h**.

---

template<class X>
**X & sc_dt::sc_proxy< X >::assign_ ( uint64 *a* ) [inline, inherited]**

Definition at line **932** of file **sc_proxy.h**.

---

template<class X>
**X & sc_dt::sc_proxy< X >::assign_ ( int64 *a* ) [inline, inherited]**

Definition at line **950** of file **sc_proxy.h**.

---

template<class X>
**X & sc_dt::sc_proxy< X >::b_not ( ) [inline, inherited]**

Definition at line **973** of file **sc_proxy.h**.

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator~ ( ) const** `[inline, inherited]`

  Definition at line **356** of file **sc_lv_base.h**.

template<class X>
**X& sc_dt::sc_proxy< X >::operator &= ( const char \* _b_ )** `[inherited]`

template<class X>
**X& sc_dt::sc_proxy< X >::operator &= ( const bool \* _b_ )** `[inherited]`

template<class X>
**X& sc_dt::sc_proxy< X >::operator &= ( const sc_logic \* _b_ )** `[inherited]`

template<class X>
**X& sc_dt::sc_proxy< X >::operator &= ( const sc_unsigned & _b_ )** `[inherited]`

template<class X>
**X& sc_dt::sc_proxy< X >::operator &= ( const sc_signed & _b_ )** `[inherited]`

template<class X>
**X& sc_dt::sc_proxy< X >::operator &= ( const sc_uint_base & _b_ )** `[inline, inherited]`

  Definition at line **192** of file **sc_proxy.h**.

template<class X>
**X& sc_dt::sc_proxy< X >::operator &= ( const sc_int_base & _b_ )** `[inline, inherited]`

  Definition at line **195** of file **sc_proxy.h**.

template<class X>
**X& sc_dt::sc_proxy< X >::operator &= ( unsigned long _b_ )** `[inherited]`

template<class X>
**X& sc_dt::sc_proxy< X >::operator &= ( long _b_ )** `[inherited]`

template<class X>
**X& sc_dt::sc_proxy< X >::operator &= ( unsigned int _b_ )** `[inline, inherited]`

Definition at line **201** of file **sc_proxy.h**.

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator &= ( int** *b* **)** `[inline, inherited]`

Definition at line **204** of file **sc_proxy.h**.

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator &= ( uint64** *b* **)** `[inherited]`

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator &= ( int64** *b* **)** `[inherited]`

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator & ( const char \*** *b* **) const** `[inherited]`

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator & ( const bool \*** *b* **) const** `[inherited]`

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator & ( const sc_logic \*** *b* **) const** `[inherited]`

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator & ( const sc_unsigned &** *b* **) const** `[inherited]`

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator & ( const sc_signed &** *b* **) const** `[inherited]`

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator & ( const sc_uint_base &** *b* **) const** `[inherited]`

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator & ( const sc_int_base &** *b* **) const** `[inherited]`

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator & ( unsigned long** *b* **) const** [inherited]

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator & ( long** *b* **) const** [inherited]

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator & ( unsigned int** *b* **) const** [inherited]

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator & ( int** *b* **) const** [inherited]

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator & ( uint64** *b* **) const** [inherited]

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator & ( int64** *b* **) const** [inherited]

template<class X>
**X& sc_dt::sc_proxy< X >::operator|= ( const char ***b* **)** [inherited]

template<class X>
**X& sc_dt::sc_proxy< X >::operator|= ( const bool ***b* **)** [inherited]

template<class X>
**X& sc_dt::sc_proxy< X >::operator|= ( const sc_logic ***b* **)** [inherited]

template<class X>
**X& sc_dt::sc_proxy< X >::operator|= ( const sc_unsigned &** *b* **)** [inherited]

template<class X>
**X& sc_dt::sc_proxy< X >::operator|= ( const sc_signed &** *b* **)** [inherited]

template<class X>
**X& sc_dt::sc_proxy< X >::operator|= ( const sc_uint_base &** *b* **)** [inline, inherited]

Definition at line **234** of file **sc_proxy.h**.

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator|= ( const sc_int_base & _b_ ) [inline, inherited]**

Definition at line **237** of file **sc_proxy.h**.

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator|= ( unsigned long _b_ ) [inherited]**

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator|= ( long _b_ ) [inherited]**

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator|= ( unsigned int _b_ ) [inline, inherited]**

Definition at line **243** of file **sc_proxy.h**.

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator|= ( int _b_ ) [inline, inherited]**

Definition at line **246** of file **sc_proxy.h**.

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator|= ( uint64 _b_ ) [inherited]**

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator|= ( int64 _b_ ) [inherited]**

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator| ( const char * _b_ ) const [inherited]**

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator| ( const bool * _b_ ) const [inherited]**

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator| ( const sc_logic * _b_ ) const [inherited]**

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator| ( const sc_unsigned & _b_ ) const** [inherited]

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator| ( const sc_signed & _b_ ) const** [inherited]

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator| ( const sc_uint_base & _b_ ) const** [inherited]

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator| ( const sc_int_base & _b_ ) const** [inherited]

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator| ( unsigned long _b_ ) const** [inherited]

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator| ( long _b_ ) const** [inherited]

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator| ( unsigned int _b_ ) const** [inherited]

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator| ( int _b_ ) const** [inherited]

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator| ( uint64 _b_ ) const** [inherited]

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator| ( int64 _b_ ) const** [inherited]

template<class X>
**X& sc_dt::sc_proxy< X >::operator^= ( const char * _b_ )** [inherited]

template<class X>
**X& sc_dt::sc_proxy< X >::operator^= ( const bool * _b_ )** [inherited]

template<class X>
**X& sc_dt::sc_proxy< X >::operator^= ( const sc_logic *** *b* ) `[inherited]`**

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator^= ( const sc_unsigned & *b* ) `[inherited]`**

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator^= ( const sc_signed & *b* ) `[inherited]`**

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator^= ( const sc_uint_base & *b* ) `[inline, inherited]`**

Definition at line **276** of file **sc_proxy.h**.

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator^= ( const sc_int_base & *b* ) `[inline, inherited]`**

Definition at line **279** of file **sc_proxy.h**.

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator^= ( unsigned long *b* ) `[inherited]`**

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator^= ( long *b* ) `[inherited]`**

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator^= ( unsigned int *b* ) `[inline, inherited]`**

Definition at line **285** of file **sc_proxy.h**.

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator^= ( int *b* ) `[inline, inherited]`**

Definition at line **288** of file **sc_proxy.h**.

---

template<class X>
**X& sc_dt::sc_proxy< X >::operator^= ( uint64 *b* ) `[inherited]`**

template<class X>
**X& sc_dt::sc_proxy< X >::operator^= ( int64 *b* )** [inherited]

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator^ ( const char * *b* ) const** [inherited]

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator^ ( const bool * *b* ) const** [inherited]

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator^ ( const sc_logic * *b* ) const** [inherited]

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator^ ( const sc_unsigned & *b* ) const** [inherited]

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator^ ( const sc_signed & *b* ) const** [inherited]

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator^ ( const sc_uint_base & *b* ) const** [inherited]

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator^ ( const sc_int_base & *b* ) const** [inherited]

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator^ ( unsigned long *b* ) const** [inherited]

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator^ ( long *b* ) const** [inherited]

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator^ ( unsigned int *b* ) const** [inherited]

---

template<class X>
**const sc_lv_base sc_dt::sc_proxy< X >::operator^ ( int *b* ) const** [inherited]

```
template<class X>
const sc_lv_base sc_dt::sc_proxy< X >::operator^ ( uint64 b ) const [inherited]
```

```
template<class X>
const sc_lv_base sc_dt::sc_proxy< X >::operator^ ( int64 b ) const [inherited]
```

```
template<class X>
X & sc_dt::sc_proxy< X >::operator<<= ( int n ) [inline, inherited]
```

Definition at line **1064** of file **sc_proxy.h**.

```
template<class X>
const sc_lv_base sc_dt::sc_proxy< X >::operator<< ( int n ) const [inline, inherited]
```

Definition at line **674** of file **sc_lv_base.h**.

```
template<class X>
X & sc_dt::sc_proxy< X >::operator>>= ( int n ) [inline, inherited]
```

Definition at line **1120** of file **sc_proxy.h**.

```
template<class X>
const sc_lv_base sc_dt::sc_proxy< X >::operator>> ( int n ) const [inline, inherited]
```

Definition at line **687** of file **sc_lv_base.h**.

```
template<class X>
X & sc_dt::sc_proxy< X >::lrotate ( int n ) [inline, inherited]
```

Definition at line **699** of file **sc_lv_base.h**.

```
template<class X>
X & sc_dt::sc_proxy< X >::rrotate ( int n ) [inline, inherited]
```

Definition at line **738** of file **sc_lv_base.h**.

```
template<class X>
X & sc_dt::sc_proxy< X >::reverse ( ) [inline, inherited]
```

Definition at line **1191** of file **sc_proxy.h**.

---

template<class X>
**sc_bitref<X> sc_dt::sc_proxy< X >::operator[] ( int *i* )** `[inline, inherited]`

Definition at line **341** of file **sc_proxy.h**.

---

template<class X>
**sc_bitref_r<X> sc_dt::sc_proxy< X >::operator[] ( int *i* ) const** `[inline, inherited]`

Definition at line **344** of file **sc_proxy.h**.

---

template<class X>
**sc_bitref<X> sc_dt::sc_proxy< X >::bit ( int *i* )** `[inline, inherited]`

Definition at line **347** of file **sc_proxy.h**.

---

template<class X>
**sc_bitref_r<X> sc_dt::sc_proxy< X >::bit ( int *i* ) const** `[inline, inherited]`

Definition at line **350** of file **sc_proxy.h**.

---

template<class X>
**sc_subref<X> sc_dt::sc_proxy< X >::operator() ( int *hi,***
**int *lo***
**)** `[inline, inherited]`

Definition at line **356** of file **sc_proxy.h**.

---

template<class X>
**sc_subref_r<X> sc_dt::sc_proxy< X >::operator() ( int *hi,***
**int *lo***
**) const** `[inline, inherited]`

Definition at line **359** of file **sc_proxy.h**.

---

template<class X>
**sc_subref<X> sc_dt::sc_proxy< X >::range ( int *hi,***
**int *lo***
**)** `[inline, inherited]`

Definition at line **362** of file **sc_proxy.h**.

---

template<class X>

**sc_subref_r<X> sc_dt::sc_proxy< X >::range ( int** *hi,*

**int** *lo*

**)**        **const** `[inline, inherited]`

Definition at line **365** of file **sc_proxy.h**.

---

template<class X>
**sc_logic_value_t sc_dt::sc_proxy< X >::and_reduce ( ) const** `[inline, inherited]`

Definition at line **1215** of file **sc_proxy.h**.

---

template<class X>
**sc_logic_value_t sc_dt::sc_proxy< X >::nand_reduce ( ) const** `[inline, inherited]`

Definition at line **373** of file **sc_proxy.h**.

---

template<class X>
**sc_logic_value_t sc_dt::sc_proxy< X >::or_reduce ( ) const** `[inline, inherited]`

Definition at line **1229** of file **sc_proxy.h**.

---

template<class X>
**sc_logic_value_t sc_dt::sc_proxy< X >::nor_reduce ( ) const** `[inline, inherited]`

Definition at line **378** of file **sc_proxy.h**.

---

template<class X>
**sc_logic_value_t sc_dt::sc_proxy< X >::xor_reduce ( ) const** `[inline, inherited]`

Definition at line **1243** of file **sc_proxy.h**.

---

template<class X>
**sc_logic_value_t sc_dt::sc_proxy< X >::xnor_reduce ( ) const** `[inline, inherited]`

Definition at line **383** of file **sc_proxy.h**.

---

template<class X>
**bool sc_dt::sc_proxy< X >::operator== ( const char \*** *b* **) const** `[inherited]`

---

template<class X>
**bool sc_dt::sc_proxy< X >::operator== ( const bool \*** *b* **) const** `[inherited]`

template<class X>
**bool sc_dt::sc_proxy< X >::operator== ( const sc_logic * _b_ ) const** [inherited]

template<class X>
**bool sc_dt::sc_proxy< X >::operator== ( const sc_unsigned & _b_ ) const** [inherited]

template<class X>
**bool sc_dt::sc_proxy< X >::operator== ( const sc_signed & _b_ ) const** [inherited]

template<class X>
**bool sc_dt::sc_proxy< X >::operator== ( const sc_uint_base & _b_ ) const** [inherited]

template<class X>
**bool sc_dt::sc_proxy< X >::operator== ( const sc_int_base & _b_ ) const** [inherited]

template<class X>
**bool sc_dt::sc_proxy< X >::operator== ( unsigned long _b_ ) const** [inherited]

template<class X>
**bool sc_dt::sc_proxy< X >::operator== ( long _b_ ) const** [inherited]

template<class X>
**bool sc_dt::sc_proxy< X >::operator== ( unsigned int _b_ ) const** [inherited]

template<class X>
**bool sc_dt::sc_proxy< X >::operator== ( int _b_ ) const** [inherited]

template<class X>
**bool sc_dt::sc_proxy< X >::operator== ( uint64 _b_ ) const** [inherited]

template<class X>
**bool sc_dt::sc_proxy< X >::operator== ( int64 _b_ ) const** [inherited]

template<class X>

const std::string **sc_dt::sc_proxy**< X >::to_string ( ) const `[inline, inherited]`

Definition at line **1313** of file **sc_proxy.h**.

---

template<class X>
const std::string **sc_dt::sc_proxy**< X >::to_string ( **sc_numrep** *numrep* ) const `[inline, inherited]`

Definition at line **1327** of file **sc_proxy.h**.

---

template<class X>
const std::string **sc_dt::sc_proxy**< X >::to_string ( **sc_numrep** *numrep,*
                                                          bool        *w_prefix*
                                                          )                    const `[inline, inherited]`

Definition at line **1335** of file **sc_proxy.h**.

---

template<class X>
**int64 sc_dt::sc_proxy**< X >::to_int64 ( ) const `[inline, inherited]`

Definition at line **413** of file **sc_proxy.h**.

---

template<class X>
**uint64 sc_dt::sc_proxy**< X >::to_uint64 ( ) const `[inline, inherited]`

Definition at line **1397** of file **sc_proxy.h**.

---

template<class X>
int **sc_dt::sc_proxy**< X >::to_int ( ) const `[inline, inherited]`

Definition at line **416** of file **sc_proxy.h**.

---

template<class X>
unsigned int **sc_dt::sc_proxy**< X >::to_uint ( ) const `[inline, inherited]`

Definition at line **419** of file **sc_proxy.h**.

---

template<class X>
long **sc_dt::sc_proxy**< X >::to_long ( ) const `[inline, inherited]`

Definition at line **422** of file **sc_proxy.h**.

---

template<class X>

**unsigned long sc_dt::sc_proxy< X >::to_ulong ( ) const** `[inline, inherited]`

Definition at line **425** of file **sc_proxy.h**.

---

template<class X>
**void sc_dt::sc_proxy< X >::print ( ::std::ostream &** *OS* = *::std::cout* **) const** `[inline, inherited]`

Definition at line **441** of file **sc_proxy.h**.

---

template<class X>
**void sc_dt::sc_proxy< X >::scan ( ::std::istream &** *IS* = *::std::cin* **) ** `[inline, inherited]`

Reimplemented in **sc_dt::sc_subref< X >**, and **sc_dt::sc_concref< X, Y >**.

Definition at line **1346** of file **sc_proxy.h**.

---

template<class X>
**void sc_dt::sc_proxy< X >::check_bounds ( int** *n* **) const** `[inline, protected, inherited]`

Definition at line **1357** of file **sc_proxy.h**.

---

template<class X>
**void sc_dt::sc_proxy< X >::check_wbounds ( int** *n* **) const** `[inline, protected, inherited]`

Definition at line **1367** of file **sc_proxy.h**.

---

template<class X>
**sc_digit sc_dt::sc_proxy< X >::to_anything_unsigned ( ) const** `[inline, protected, inherited]`

Definition at line **1378** of file **sc_proxy.h**.

---

template<class X>
**int64 sc_dt::sc_proxy< X >::to_anything_signed ( ) const** `[inline, protected, inherited]`

Definition at line **1429** of file **sc_proxy.h**.

---

## Member Data Documentation

**int sc_dt::sc_bv_base::m_len** `[protected, inherited]`

Definition at line **252** of file **sc_bv_base.h**.

**int sc_dt::sc_bv_base::m_size** [protected, inherited]

Definition at line **253** of file **sc_bv_base.h**.

**sc_digit\* sc_dt::sc_bv_base::m_data** [protected, inherited]

Definition at line **254** of file **sc_bv_base.h**.

---

The documentation for this class was generated from the following file:

- sysc/datatypes/bit/**sc_bv.h**

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