

Intel® Offload Runtime Library

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Chapter 1

Namespace Index

1.1 Namespace List

Here is a list of all namespaces with brief descriptions:

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Chapter 2

Hierarchical Index

2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

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Chapter 5

Namespace Documentation

5.1 COI Namespace Reference

Functions

- bool [init](#) (void)
- void [fini](#) (void)

Variables

- bool [is_available](#)
- static void [lib_handle](#)
- COIRERESULT([EngineGetCount](#))(COI_ISA_TYPE, uint32_t)
- COIRERESULT([EngineGetHandle](#))(COI_ISA_TYPE, uint32_t, COIENGINE)
- COIRERESULT([ProcessCreateFromMemory](#))(COIENGINE, const char , const void , uint64_t, int, const char , uint8_t, const char , uint8_t, const char , uint64_t, const char , const char , uint64_t, COIPROCESS)
- COIRERESULT([ProcessDestroy](#))(COIPROCESS, int32_t, uint8_t, int8_t , uint32_t)
- COIRERESULT([ProcessGetFunctionHandles](#))(COIPROCESS, uint32_t, const char , COIFUNCTION)
- COIRERESULT([ProcessLoadLibraryFromMemory](#))(COIPROCESS, const void , uint64_t, const char , const char , const char , uint64_t, uint32_t, COILIBRARY)
- COIRERESULT([ProcessRegisterLibraries](#))(uint32_t, const void , const uint64_t , const char , const uint64_t)
- COIRERESULT([PipelineCreate](#))(COIPROCESS, COI_CPU_MASK, uint32_t, COIPIPELINE)
- COIRERESULT([PipelineDestroy](#))(COIPIPELINE)
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- COIRERESULT([BufferCreate](#))(uint64_t, COI_BUFFER_TYPE, uint32_t, const void , uint32_t, const COIPROCESS , COIBUFFER)
- COIRERESULT([BufferCreateFromMemory](#))(uint64_t, COI_BUFFER_TYPE, uint32_t, void , uint32_t, const COIPROCESS , COIBUFFER)
- COIRERESULT([BufferDestroy](#))(COIBUFFER)
- COIRERESULT([BufferMap](#))(COIBUFFER, uint64_t, uint64_t, COI_MAP_TYPE, uint32_t, const COIEVENT , COIEVENT , COIMAPINSTANCE , void)
- COIRERESULT([BufferUnmap](#))(COIMAPINSTANCE, uint32_t, const COIEVENT , COIEVENT)
- COIRERESULT([BufferWrite](#))(COIBUFFER, uint64_t, const void , uint64_t, COI_COPY_TYPE, uint32_t, const COIEVENT , COIEVENT)
- COIRERESULT([BufferRead](#))(COIBUFFER, uint64_t, void , uint64_t, COI_COPY_TYPE, uint32_t, const COIEVENT , COIEVENT)
- COIRERESULT([BufferCopy](#))(COIBUFFER, COIBUFFER, uint64_t, uint64_t, uint64_t, COI_COPY_TYPE, uint32_t, const COIEVENT , COIEVENT)
- COIRERESULT([BufferGetSinkAddress](#))(COIBUFFER, uint64_t)

- COIRESET([BufferSetState](#))(COIBUFFER, COIPROCESS, COI_BUFFER_STATE, COI_BUFFER_MOVE-
_FLAG, uint32_t, const COIEVENT , COIEVENT)
- COIRESET([EventWait](#))(uint16_t, const COIEVENT , int32_t, uint8_t, uint32_t , uint32_t)
- uint64_t([PerfGetCycleFrequency](#))(void)

5.1.1 Function Documentation

void COI::fini (void)

Definition at line 338 of file coi_client.cpp.

Referenced by `__offload_fini_library()`, and `init()`.

bool COI::init (void)

Definition at line 75 of file coi_client.cpp.

Referenced by `__offload_init_library_once()`.

5.1.2 Variable Documentation

**COIRESET(COI::BufferCopy)(COIBUFFER, COIBUFFER, uint64_t, uint64_t, uint64_t, COI_COPY_TYPE,
uint32_t, const COIEVENT , COIEVENT)**

Definition at line 63 of file coi_client.cpp.

Referenced by `init()`, `OffloadDescriptor::receive_pointer_data()`, `OffloadDescriptor::recieve_noncontiguous_-
pointer_data()`, `OffloadDescriptor::send_noncontiguous_pointer_data()`, and `OffloadDescriptor::send_pointer_data()`.

**COIRESET(COI::BufferCreate)(uint64_t, COI_BUFFER_TYPE, uint32_t, const void , uint32_t, const
COIPROCESS , COIBUFFER)**

Definition at line 50 of file coi_client.cpp.

Referenced by `OffloadDescriptor::alloc_ptr_data()`, `init()`, `Engine::init_ptr_data()`, `OffloadDescriptor::offload_stack-
_memory_manager()`, and `OffloadDescriptor::setup_misc_data()`.

**COIRESET(COI::BufferCreateFromMemory)(uint64_t, COI_BUFFER_TYPE, uint32_t, void , uint32_t,
const COIPROCESS , COIBUFFER)**

Definition at line 52 of file coi_client.cpp.

Referenced by `OffloadDescriptor::alloc_ptr_data()`, `init()`, and `OffloadDescriptor::init_static_ptr_data()`.

COIRESET(COI::BufferDestroy)(COIBUFFER)

Definition at line 55 of file coi_client.cpp.

Referenced by `init()`, `Engine::init_ptr_data()`, and `OffloadDescriptor::offload_finish()`.

COIRESET(COI::BufferGetSinkAddress)(COIBUFFER, uint64_t)

Definition at line 65 of file coi_client.cpp.

Referenced by `init()`, and `OffloadDescriptor::init_mic_address()`.

**COIRESET(COI::BufferMap)(COIBUFFER, uint64_t, uint64_t, COI_MAP_TYPE, uint32_t, const COIEVENT
, COIEVENT , COIMAPINSTANCE , void)**

Definition at line 56 of file coi_client.cpp.

Referenced by `OffloadDescriptor::gather_copyin_data()`, `init()`, `Engine::init_ptr_data()`, and `OffloadDescriptor-
::scatter_copyout_data()`.

COIRESULT(COI::BufferRead)(COIBUFFER, uint64_t, void , uint64_t, COI_COPY_TYPE, uint32_t, const COIEVENT , COIEVENT)

Definition at line 61 of file coi_client.cpp.

Referenced by `init()`, `OffloadDescriptor::receive_pointer_data()`, and `OffloadDescriptor::recieve_noncontiguous_pointer_data()`.

COIRESULT(COI::BufferSetState)(COIBUFFER, COIPROCESS, COI_BUFFER_STATE, COI_BUFFER_MOVE_FLAG, uint32_t, const COIEVENT , COIEVENT)

Definition at line 66 of file coi_client.cpp.

Referenced by `OffloadDescriptor::alloc_ptr_data()`, `init()`, and `OffloadDescriptor::offload_stack_memory_manager()`.

COIRESULT(COI::BufferUnmap)(COIMAPINSTANCE, uint32_t, const COIEVENT , COIEVENT)

Definition at line 58 of file coi_client.cpp.

Referenced by `OffloadDescriptor::gather_copyin_data()`, `init()`, `Engine::init_ptr_data()`, and `OffloadDescriptor::scatter_copyout_data()`.

COIRESULT(COI::BufferWrite)(COIBUFFER, uint64_t, const void , uint64_t, COI_COPY_TYPE, uint32_t, const COIEVENT , COIEVENT)

Definition at line 59 of file coi_client.cpp.

Referenced by `init()`, `OffloadDescriptor::nullify_target_stack()`, `OffloadDescriptor::send_noncontiguous_pointer_data()`, and `OffloadDescriptor::send_pointer_data()`.

COIRESULT(COI::EngineGetCount)(COI_ISA_TYPE, uint32_t)

Definition at line 25 of file coi_client.cpp.

Referenced by `__offload_init_library_once()`, and `init()`.

COIRESULT(COI::EngineGetHandle)(COI_ISA_TYPE, uint32_t, COIENGINE)

Definition at line 26 of file coi_client.cpp.

Referenced by `__offload_init_library_once()`, `init()`, and `Engine::init_process()`.

COIRESULT(COI::EventWait)(uint16_t, const COIEVENT , int32_t, uint8_t, uint32_t , uint32_t)

Definition at line 70 of file coi_client.cpp.

Referenced by `__offload_myofini()`, `__offload_myonit_once()`, `init()`, `Engine::init_device()`, `Engine::init_ptr_data()`, `OffloadDescriptor::is_signaled()`, and `OffloadDescriptor::offload_finish()`.

bool COI::is_available

Definition at line 21 of file coi_client.cpp.

Referenced by `__offload_fini_library()`, `__offload_init_library()`, `fini()`, and `init()`.

void COI::lib_handle [static]

Definition at line 22 of file coi_client.cpp.

Referenced by `fini()`, and `init()`.

uint64_t(COI::PerfGetCycleFrequency)(void)

Definition at line 73 of file coi_client.cpp.

Referenced by `__offload_init_library_once()`, and `init()`.

COIRERESULT(COI::PipelineCreate)(COIPROCESS, COI_CPU_MASK, uint32_t, COIPIPELINE)

Definition at line 43 of file coi_client.cpp.

Referenced by Engine::get_pipeline(), and init().

COIRERESULT(COI::PipelineDestroy)(COIPIPELINE)

Definition at line 44 of file coi_client.cpp.

Referenced by init(), and Thread:: Thread().

COIRERESULT(COI::PipelineRunFunction)(COIPIPELINE, COIFUNCTION, uint32_t, const COIBUFFER , const COI_ACCESS_FLAGS , uint32_t, const COIEVENT , const void , uint16_t, void , uint16_t, COIEVENT)

Definition at line 45 of file coi_client.cpp.

Referenced by Engine::compute(), init(), Engine::init_device(), and Engine::init_ptr_data().

COIRERESULT(COI::ProcessCreateFromMemory)(COIENGINE, const char , const void , uint64_t, int, const char , uint8_t, const char , uint8_t, const char , uint64_t, const char , const char , uint64_t, COIPROCESS)

Definition at line 28 of file coi_client.cpp.

Referenced by init(), and Engine::init_process().

COIRERESULT(COI::ProcessDestroy)(COIPROCESS, int32_t, uint8_t, int8_t , uint32_t)

Definition at line 33 of file coi_client.cpp.

Referenced by Engine::fini_process(), and init().

COIRERESULT(COI::ProcessGetFunctionHandles)(COIPROCESS, uint32_t, const char , COIFUNCTION)

Definition at line 34 of file coi_client.cpp.

Referenced by init(), and Engine::init_process().

COIRERESULT(COI::ProcessLoadLibraryFromMemory)(COIPROCESS, const void , uint64_t, const char , const char , const char , uint64_t, uint32_t, COILIBRARY)

Definition at line 36 of file coi_client.cpp.

Referenced by init(), and Engine::load_libraries().

COIRERESULT(COI::ProcessRegisterLibraries)(uint32_t, const void , const uint64_t , const char , const uint64_t)

Definition at line 40 of file coi_client.cpp.

Referenced by __offload_init_library(), and init().

5.2 ORSL Namespace Reference

Functions

- void [init](#) ()
- bool [reserve](#) (int device)
- bool [try_reserve](#) (int device)
- void [release](#) (int device)

Variables

- static bool [is_enabled](#) = false
- static const [ORSLTag my_tag](#) = "Offload"

5.2.1 Function Documentation

void ORSL::init ()

Definition at line 21 of file offload_orsl.cpp.

Referenced by `__offload_init_library_once()`.

void ORSL::release (int *device*)

Definition at line 71 of file offload_orsl.cpp.

Referenced by `__intel_cilk_for_32_offload()`, `__intel_cilk_for_64_offload()`, `__offload_myoiRemoteThunkCall()`, and `OffloadDescriptor::cleanup()`.

bool ORSL::reserve (int *device*)

Definition at line 43 of file offload_orsl.cpp.

Referenced by `__offload_myolsAvailable()`, `OFFLOAD_TARGET_ACQUIRE()`, and `OFFLOAD_TARGET_ACQUIRE1()`.

bool ORSL::try_reserve (int *device*)

Definition at line 57 of file offload_orsl.cpp.

Referenced by `OFFLOAD_TARGET_ACQUIRE()`.

5.2.2 Variable Documentation

bool ORSL::is_enabled = false [static]

Definition at line 18 of file offload_orsl.cpp.

Referenced by `init()`, `release()`, `reserve()`, and `try_reserve()`.

const ORSLTag ORSL::my_tag = "Offload" [static]

Definition at line 19 of file offload_orsl.cpp.

Referenced by `release()`, `reserve()`, and `try_reserve()`.

Chapter 6

Class Documentation

6.1 `_Offload_status` Struct Reference

`#include <offload.h>`

Public Attributes

- `_Offload_result result`
- `int device_number`
- `size_t data_sent`
- `size_t data_received`

6.1.1 Detailed Description

Definition at line 62 of file `offload.h`.

6.1.2 Member Data Documentation

`size_t _Offload_status::data_received`

Definition at line 66 of file `offload.h`.

Referenced by `OFFLOAD_TARGET_ACQUIRE()`, `OffloadDescriptor::receive_pointer_data()`, and `OffloadDescriptor::scatter_copyout_data()`.

`size_t _Offload_status::data_sent`

Definition at line 65 of file `offload.h`.

Referenced by `OffloadDescriptor::gather_copyin_data()`, `OFFLOAD_TARGET_ACQUIRE()`, and `OffloadDescriptor::send_pointer_data()`.

`int _Offload_status::device_number`

Definition at line 64 of file `offload.h`.

Referenced by `OffloadDescriptor::offload()`, and `OFFLOAD_TARGET_ACQUIRE()`.

`_Offload_result _Offload_status::result`

Definition at line 63 of file `offload.h`.

Referenced by `OffloadDescriptor::alloc_ptr_data()`, `OffloadDescriptor::compute()`, `OffloadDescriptor::gather_copyin_data()`, `OffloadDescriptor::init_mic_address()`, `OffloadDescriptor::init_static_ptr_data()`, `OffloadDescriptor::nullify_target_stack()`, `OffloadDescriptor::offload()`, `OffloadDescriptor::offload_finish()`, `OffloadDescriptor::offload_stack_memory_manager()`, `OFFLOAD_TARGET_ACQUIRE()`, `OffloadDescriptor::receive_pointer_data()`, `OffloadDescriptor::recieve_noncontiguous_pointer_data()`, `OffloadDescriptor::scatter_copyout_data()`, `OffloadDescriptor::send_noncontiguous_pointer_data()`, `OffloadDescriptor::send_pointer_data()`, and `OffloadDescriptor::setup_misc_data()`.

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

- [offload.h](#)

6.2 arr_desc Struct Reference

```
#include <cean_util.h>
```

Public Attributes

- `int64_t base`
- `int64_t rank`
- `dim_desc dim [1]`

6.2.1 Detailed Description

Definition at line 25 of file `cean_util.h`.

6.2.2 Member Data Documentation

`int64_t arr_desc::base`

Definition at line 26 of file `cean_util.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, `generate_mem_ranges()`, `init_read_ranges_arr_desc()`, `make_arr_desc()`, `offload_get_src_base()`, and `OffloadDescriptor::setup_descriptors()`.

`dim_desc arr_desc::dim[1]`

Definition at line 28 of file `cean_util.h`.

Referenced by `__arr_data_offset_and_length()`, `OffloadDescriptor::gen_var_descs_for_pointer_array()`, `generate_mem_ranges()`, `init_read_ranges_arr_desc()`, `is_arr_desc_contiguous()`, and `make_arr_desc()`.

`int64_t arr_desc::rank`

Definition at line 27 of file `cean_util.h`.

Referenced by `__arr_data_offset_and_length()`, `OffloadDescriptor::gen_var_descs_for_pointer_array()`, `generate_mem_ranges()`, `init_read_ranges_arr_desc()`, `is_arr_desc_contiguous()`, and `make_arr_desc()`.

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

- [cean_util.h](#)

6.3 ArrDesc Struct Reference

```
#include <dv_util.h>
```

Public Attributes

- `dv_size Base`
- `dv_size Len`
- `dv_size Offset`
- `dv_size Flags`
- `dv_size Rank`
- `dv_size Reserved`
- `DimDesc Dim [ArrDescMaxArrayRank]`

6.3.1 Detailed Description

Definition at line 34 of file `dv_util.h`.

6.3.2 Member Data Documentation

dv_size ArrDesc::Base

Definition at line 35 of file dv_util.h.

Referenced by OffloadDescriptor::gather_copyout_data(), init_read_ranges_dv(), offload_get_src_base(), OffloadDescriptor::scatter_copyin_data(), and OffloadDescriptor::setup_descriptors().

DimDesc ArrDesc::Dim[ArrDescMaxArrayRank]

Definition at line 42 of file dv_util.h.

Referenced by __dv_data_length(), __dv_is_contiguous(), and init_read_ranges_dv().

dv_size ArrDesc::Flags

Definition at line 39 of file dv_util.h.

Referenced by __dv_is_allocated(), and __dv_is_contiguous().

dv_size ArrDesc::Len

Definition at line 36 of file dv_util.h.

Referenced by __dv_data_length(), __dv_is_contiguous(), and init_read_ranges_dv().

dv_size ArrDesc::Offset

Definition at line 38 of file dv_util.h.

dv_size ArrDesc::Rank

Definition at line 40 of file dv_util.h.

Referenced by __dv_data_length(), __dv_is_contiguous(), and init_read_ranges_dv().

dv_size ArrDesc::Reserved

Definition at line 41 of file dv_util.h.

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

- [dv_util.h](#)

6.4 AutoData Class Reference

```
#include <offload_engine.h>
```

Public Member Functions

- [AutoData](#) (const void *addr, uint64_t len)
- bool [operator<](#) (const [AutoData](#) &o) const
- long [add_reference](#) ()
- long [remove_reference](#) ()
- long [get_reference](#) () const

Public Attributes

- const [MemRange](#) cpu_addr

Private Attributes

- long [ref_count](#)

6.4.1 Detailed Description

Definition at line 141 of file offload_engine.h.

6.4.2 Constructor & Destructor Documentation

AutoData::AutoData (const void addr, uint64_t len) [inline]

Definition at line 143 of file offload_engine.h.

6.4.3 Member Function Documentation

long AutoData::add_reference () [inline]

Definition at line 154 of file offload_engine.h.

Referenced by OffloadDescriptor::setup_descriptors().

long AutoData::get_reference () const [inline]

Definition at line 170 of file offload_engine.h.

Referenced by OffloadDescriptor::setup_descriptors().

bool AutoData::operator< (const AutoData & o) const [inline]

Definition at line 147 of file offload_engine.h.

long AutoData::remove_reference () [inline]

Definition at line 162 of file offload_engine.h.

Referenced by OffloadDescriptor::receive_pointer_data().

6.4.4 Member Data Documentation

const MemRange AutoData::cpu_addr

Definition at line 176 of file offload_engine.h.

Referenced by operator<(), and OffloadDescriptor::receive_pointer_data().

long AutoData::ref_count [private]

Definition at line 180 of file offload_engine.h.

Referenced by add_reference(), get_reference(), and remove_reference().

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

- [offload_engine.h](#)

6.5 VarList::BufEntry Struct Reference

```
#include <offload_table.h>
```

Public Attributes

- intptr_t [name](#)
- intptr_t [addr](#)

6.5.1 Detailed Description

Definition at line 231 of file offload_table.h.

6.5.2 Member Data Documentation

`intptr_t VarList::BufEntry::addr`

Definition at line 233 of file `offload_table.h`.

Referenced by `Engine::init_ptr_data()`, and `VarList::table_copy()`.

`intptr_t VarList::BufEntry::name`

Definition at line 232 of file `offload_table.h`.

Referenced by `Engine::init_ptr_data()`, `VarList::table_copy()`, `VarList::table_patch_names()`, and `target_entry_cmp()`.

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

- [offload_table.h](#)

6.6 MicEnvVar::CardEnvVars Struct Reference

```
#include <offload_env.h>
```

Public Member Functions

- [CardEnvVars](#) ()
- [CardEnvVars](#) (int num)
- [CardEnvVars](#) ()
- void [add_new_env_var](#) (int number, char env_var, int length, char env_var_value)
- [VarValue](#) [find_var](#) (char env_var_name, int env_var_name_length)

Public Attributes

- int [card_number](#)
- std::list< struct [VarValue](#) > [env_vars](#)

6.6.1 Detailed Description

Definition at line 66 of file `offload_env.h`.

6.6.2 Constructor & Destructor Documentation

`MicEnvVar::CardEnvVars::CardEnvVars () [inline]`

Definition at line 72 of file `offload_env.h`.

`MicEnvVar::CardEnvVars::CardEnvVars (int num) [inline]`

Definition at line 73 of file `offload_env.h`.

`MicEnvVar::CardEnvVars:: CardEnvVars ()`

Definition at line 35 of file `offload_env.cpp`.

6.6.3 Member Function Documentation

`void MicEnvVar::CardEnvVars::add_new_env_var (int number, char env_var, int length, char env_var_value)`

`MicEnvVar::VarValue MicEnvVar::CardEnvVars::find_var (char env_var_name, int env_var_name_length)`

Definition at line 64 of file `offload_env.cpp`.

Referenced by `MicEnvVar::add_env_var()`, and `MicEnvVar::create_envron_for_card()`.

6.6.4 Member Data Documentation

`int MicEnvVar::CardEnvVars::card_number`

Definition at line 69 of file `offload.env.h`.

Referenced by `CardEnvVars()`, and `MicEnvVar::get_card()`.

`std::list<struct VarValue > MicEnvVar::CardEnvVars::env_vars`

Definition at line 70 of file `offload.env.h`.

Referenced by `MicEnvVar::add_env_var()`, and `MicEnvVar::create_envron_for_card()`.

The documentation for this struct was generated from the following files:

- [offload.env.h](#)
- [offload.env.cpp](#)

6.7 CeanReadDim Struct Reference

```
#include <cean_util.h>
```

Public Attributes

- `int64_t` [count](#)
- `int64_t` [size](#)

6.7.1 Detailed Description

Definition at line 31 of file `cean_util.h`.

6.7.2 Member Data Documentation

`int64_t CeanReadDim::count`

Definition at line 32 of file `cean_util.h`.

Referenced by `get_next_range()`, `init_read_ranges_arr_desc()`, and `init_read_ranges_dv()`.

`int64_t CeanReadDim::size`

Definition at line 33 of file `cean_util.h`.

Referenced by `get_next_range()`, `init_read_ranges_arr_desc()`, and `init_read_ranges_dv()`.

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

- [cean_util.h](#)

6.8 CeanReadRanges Struct Reference

```
#include <cean_util.h>
```

Public Attributes

- `void` [ptr](#)
- `int64_t` [current_number](#)
- `int64_t` [range_max_number](#)
- `int64_t` [range_size](#)
- `int` [last_noncont_ind](#)
- `int64_t` [init_offset](#)
- [CeanReadDim](#) [Dim](#) [1]

6.8.1 Detailed Description

Definition at line 37 of file cean_util.h.

6.8.2 Member Data Documentation

`int64_t CeanReadRanges::current_number`

Definition at line 39 of file cean_util.h.

Referenced by `get_next_range()`, and `init_read_ranges_arr_desc()`.

6.9.1 Detailed Description

Definition at line 17 of file cean_util.h.

6.9.2 Member Data Documentation

int64_t dim_desc::index

Definition at line 19 of file cean_util.h.

Referenced by `__arr_data_offset_and_length()`, `generate_mem_ranges_one_rank()`, `init_read_ranges_arr_desc()`, and `make_arr_desc()`.

int64_t dim_desc::lower

Definition at line 20 of file cean_util.h.

Referenced by `__arr_data_offset_and_length()`, `generate_mem_ranges_one_rank()`, `init_read_ranges_arr_desc()`, `is_arr_desc_contiguous()`, and `make_arr_desc()`.

int64_t dim_desc::size

Definition at line 18 of file cean_util.h.

Referenced by `__arr_data_offset_and_length()`, `OffloadDescriptor::gen_var_descs_for_pointer_array()`, `generate_mem_ranges()`, `generate_mem_ranges_one_rank()`, `init_read_ranges_arr_desc()`, `is_arr_desc_contiguous()`, and `make_arr_desc()`.

int64_t dim_desc::stride

Definition at line 22 of file cean_util.h.

Referenced by `generate_mem_ranges_one_rank()`, `init_read_ranges_arr_desc()`, `is_arr_desc_contiguous()`, and `make_arr_desc()`.

int64_t dim_desc::upper

Definition at line 21 of file cean_util.h.

Referenced by `__arr_data_offset_and_length()`, `generate_mem_ranges_one_rank()`, `init_read_ranges_arr_desc()`, `is_arr_desc_contiguous()`, and `make_arr_desc()`.

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

- [cean_util.h](#)

6.10 DimDesc Struct Reference

```
#include <dv_util.h>
```

Public Attributes

- [dv_size Extent](#)
- [dv_size Mult](#)
- [dv_size LowerBound](#)

6.10.1 Detailed Description

Definition at line 26 of file dv_util.h.

6.10.2 Member Data Documentation

dv_size DimDesc::Extent

Definition at line 27 of file dv_util.h.

Referenced by `__dv_data_length()`, `__dv_is_contiguous()`, and `init_read_ranges_dv()`.

dv_size DimDesc::LowerBound

Definition at line 31 of file dv_util.h.

dv_size DimDesc::Mult

Definition at line 28 of file dv_util.h.

Referenced by `__dv_data_length()`, `__dv_is_contiguous()`, and `init_read_ranges_dv()`.

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

- [dv_util.h](#)

6.11 Engine Struct Reference

```
#include <offload_engine.h>
```

Public Member Functions

- [int get_logical_index \(\) const](#)
- [int get_physical_index \(\) const](#)
- [const COIPROCESS & get_process \(\) const](#)
- [void init \(void\)](#)
- [void add_lib \(const TargetImage &lib\)](#)
- [COIRESULT compute \(const std::list< COIBUFFER > &buffers, const void *data, uint16_t data_size, void *ret, uint16_t ret_size, uint32_t num_deps, const COIEVENT *deps, COIEVENT event\)](#)
- [PtrData find_ptr_data \(const void *ptr\)](#)
- [PtrData insert_ptr_data \(const void *ptr, uint64_t len, bool &is_new\)](#)
- [void remove_ptr_data \(const void *ptr\)](#)
- [AutoData find_auto_data \(const void *ptr\)](#)
- [AutoData insert_auto_data \(const void *ptr, uint64_t len\)](#)
- [void remove_auto_data \(const void *ptr\)](#)
- [void add_signal \(const void *signal, OffloadDescriptor desc\)](#)
- [OffloadDescriptor find_signal \(const void *signal, bool remove\)](#)
- [void fini_process \(bool verbose\)](#)

Public Attributes

- [PersistDataList m_persist_list](#)

Private Types

- [enum f](#)
[c_func_compute](#) = 0, [c_func_init](#), [c_func_var_table_size](#), [c_func_var_table_copy](#),
[c_funcs_total](#) [g](#)
- [typedef std::set< PtrData > PtrSet](#)
- [typedef std::map< const void *, OffloadDescriptor > SignalMap](#)

Private Member Functions

- [Engine \(\)](#)
- [Engine \(\)](#)
- [void set_indexes \(int logical_index, int physical_index\)](#)
- [void init_process \(\)](#)
- [void load_libraries \(void\)](#)
- [void init_ptr_data \(void\)](#)
- [pid_t init_device \(void\)](#)
- [COIPIPELINE get_pipeline \(void\)](#)
- [AutoSet & get_auto_vars \(void\)](#)

Static Private Member Functions

- static void `destroy_thread_data` (void data)

Private Attributes

- int `m_index`
- int `m_physical_index`
- long `m_proc_number`
- COIPROCESS `m_process`
- bool `m_ready`
- `mutex_t` `m_lock`
- `TargetImageList` `m_images`
- `PtrSet` `m_ptr_set`
- `mutex_t` `m_ptr_lock`
- `SignalMap` `m_signal_map`
- `mutex_t` `m_signal_lock`
- COIFUNCTION `m_funcs` [`c_funcs_total`]

Static Private Attributes

- static const char `m_func_names` [`c_funcs_total`]
- static const int `c_signal_max` = 32
- static const char `c_signal_names` [`c_signal_max`]

Friends

- void `__offload_init_library_once` (void)
- void `__offload_fini_library` (void)

6.11.1 Detailed Description

Definition at line 230 of file `offload_engine.h`.

6.11.2 Member Typedef Documentation

```
typedef std::set<PtrData> Engine::PtrSet [private]
```

Definition at line 431 of file `offload_engine.h`.

```
typedef std::map<const void , OffloadDescriptor > Engine::SignalMap [private]
```

Definition at line 432 of file `offload_engine.h`.

6.11.3 Member Enumeration Documentation

```
anonymous enum [private]
```

Enumerator

`c_func_compute`

`c_func_init`

`c_func_var_table_size`

`c_func_var_table_copy`

`c_funcs_total`

Definition at line 461 of file `offload_engine.h`.

6.11.4 Constructor & Destructor Documentation

Engine::Engine () [inline], [private]

Definition at line 395 of file `offload_engine.h`.

Engine::~Engine () [inline], [private]

Definition at line 399 of file `offload_engine.h`.

6.11.5 Member Function Documentation

void Engine::add_lib (const TargetImage & lib) [inline]

Definition at line 262 of file `offload_engine.h`.

Referenced by `_offload_init_library()`.

void Engine::add_signal (const void signal, OffloadDescriptor desc) [inline]

Definition at line 364 of file `offload_engine.h`.

Referenced by `OffloadDescriptor::offload()`.

COIRERESULT Engine::compute (const std::list< COIBUFFER > & buffers, const void data, uint16_t data_size, void ret, uint16_t ret_size, uint32_t num_deps, const COIEVENT deps, COIEVENT event)

Definition at line 361 of file `offload_engine.cpp`.

Referenced by `OffloadDescriptor::compute()`.

void Engine::destroy_thread_data (void data) [static], [private]

Definition at line 528 of file `offload_engine.cpp`.

Referenced by `_offload_init_library_once()`.

AutoData Engine::find_auto_data (const void ptr) [inline]

Definition at line 341 of file `offload_engine.h`.

Referenced by `OffloadDescriptor::setup_descriptors()`.

PtrData Engine::find_ptr_data (const void ptr) [inline]

Definition at line 305 of file `offload_engine.h`.

Referenced by `OffloadDescriptor::find_ptr_data()`.

OffloadDescriptor Engine::find_signal (const void signal, bool remove) [inline]

Definition at line 370 of file `offload_engine.h`.

Referenced by `_Offload_signaled()`, and `OffloadDescriptor::wait_dependencies()`.

void Engine::fini_process (bool verbose)

Definition at line 164 of file `offload_engine.cpp`.

Referenced by `OffloadDescriptor::report_coi_error()`, and `Engine()`.

AutoSet & Engine::get_auto_vars (void) [private]

Definition at line 517 of file `offload_engine.cpp`.

Referenced by `find_auto_data()`, `insert_auto_data()`, and `remove_auto_data()`.

int Engine::get_logical_index () const [inline]

Definition at line 246 of file offload_engine.h.

Referenced by OffloadDescriptor::cleanup(), OffloadDescriptor::offload(), OffloadDescriptor::report_coi_error(), and OffloadDescriptor::wait_dependencies().

int Engine::get_physical_index () const [inline]

Definition at line 250 of file offload_engine.h.

Referenced by __offload_myonit_once(), ORSL::release(), ORSL::reserve(), and ORSL::try_reserve().

COIPIPELINE Engine::get_pipeline (void) [private]

Definition at line 485 of file offload_engine.cpp.

Referenced by compute(), init_device(), and init_ptr_data().

const COIPROCESS& Engine::get_process () const [inline]

Definition at line 254 of file offload_engine.h.

Referenced by OffloadDescriptor::alloc_ptr_data(), OffloadDescriptor::init_static_ptr_data(), OffloadDescriptor::offload_stack_memory_manager(), and OffloadDescriptor::setup_misc_data().

void Engine::init (void)

Definition at line 70 of file offload_engine.cpp.

Referenced by __offload_myonit_once(), __offload_myolsAvailable(), __offload_register_image(), OFFLOAD_TARGET_ACQUIRE(), and OFFLOAD_TARGET_ACQUIRE1().

pid_t Engine::init_device (void) [private]

Definition at line 408 of file offload_engine.cpp.

Referenced by init_process().

void Engine::init_process (void) [private]

Definition at line 93 of file offload_engine.cpp.

Referenced by init().

void Engine::init_ptr_data (void) [private]

Definition at line 250 of file offload_engine.cpp.

Referenced by init().

AutoData Engine::insert_auto_data (const void ptr, uint64_t len) [inline]

Definition at line 350 of file offload_engine.h.

Referenced by OffloadDescriptor::setup_descriptors().

PtrData Engine::insert_ptr_data (const void ptr, uint64_t len, bool & is_new) [inline]

Definition at line 315 of file offload_engine.h.

Referenced by OffloadDescriptor::alloc_ptr_data().

void Engine::load_libraries (void) [private]

Definition at line 204 of file offload_engine.cpp.

Referenced by init().

void Engine::remove_auto_data (const void *ptr*) [inline]

Definition at line 357 of file `offload_engine.h`.

Referenced by `OffloadDescriptor::receive_pointer_data()`.

void Engine::remove_ptr_data (const void *ptr*) [inline]

Definition at line 332 of file `offload_engine.h`.

Referenced by `OffloadDescriptor::receive_pointer_data()`.

void Engine::set_indexes (int *logical_index*, int *physical_index*) [inline], [private]

Definition at line 406 of file `offload_engine.h`.

Referenced by `__offload_init_library_once()`.

6.11.6 Friends And Related Function Documentation

void __offload_fini_library (void) [friend]

Definition at line 3873 of file `offload_host.cpp`.

void __offload_init_library_once (void) [friend]

Definition at line 3901 of file `offload_host.cpp`.

6.11.7 Member Data Documentation

const int Engine::c_signal_max = 32 [static], [private]

Definition at line 478 of file `offload_engine.h`.

Referenced by `fini_process()`.

const char Engine::c_signal_names [static], [private]

Definition at line 479 of file `offload_engine.h`.

Referenced by `fini_process()`.

const char Engine::m_func_names [static], [private]

Initial value:

```
=
{
    "server_compute",

    "server_init",
    "server_var_table_size",
    "server_var_table_copy"
}
```

Definition at line 472 of file `offload_engine.h`.

Referenced by `init_process()`.

COIFUNCTION Engine::m_funcs[c_funcs_total] [private]

Definition at line 475 of file `offload_engine.h`.

Referenced by `compute()`, `init_device()`, `init_process()`, and `init_ptr_data()`.

TargetImageList Engine::m_images [private]

Definition at line 450 of file `offload_engine.h`.

Referenced by `add_lib()`, and `load_libraries()`.

int Engine::m_index [private]

Definition at line 435 of file `offload_engine.h`.

Referenced by `fini_process()`, `get_logical_index()`, `get_pipeline()`, `init_device()`, `init_process()`, `init_ptr_data()`, `load_libraries()`, and `set_indexes()`.

mutex_t Engine::m_lock [private]

Definition at line 447 of file `offload_engine.h`.

Referenced by `add_lib()`, and `init()`.

PersistDataList Engine::m_persist_list

Definition at line 392 of file `offload_engine.h`.

Referenced by `OffloadDescriptor::offload_stack_memory_manager()`, and `OffloadDescriptor::setup_descriptors()`.

int Engine::m_physical_index [private]

Definition at line 436 of file `offload_engine.h`.

Referenced by `get_physical_index()`, `init_device()`, `init_process()`, and `set_indexes()`.

long Engine::m_proc_number [private]

Definition at line 439 of file `offload_engine.h`.

Referenced by `get_auto_vars()`, and `get_pipeline()`.

COIPROCESS Engine::m_process [private]

Definition at line 442 of file `offload_engine.h`.

Referenced by `fini_process()`, `get_pipeline()`, `get_process()`, `init()`, `init_process()`, `init_ptr_data()`, `load_libraries()`, and `Engine()`.

mutex_t Engine::m_ptr_lock [private]

Definition at line 454 of file `offload_engine.h`.

Referenced by `find_ptr_data()`, `insert_ptr_data()`, and `remove_ptr_data()`.

PtrSet Engine::m_ptr_set [private]

Definition at line 453 of file `offload_engine.h`.

Referenced by `find_ptr_data()`, `init_ptr_data()`, `insert_ptr_data()`, and `remove_ptr_data()`.

bool Engine::m_ready [private]

Definition at line 446 of file `offload_engine.h`.

Referenced by `add_lib()`, and `init()`.

mutex_t Engine::m_signal_lock [private]

Definition at line 458 of file `offload_engine.h`.

Referenced by `add_signal()`, and `find_signal()`.

SignalMap Engine::m_signal_map [private]

Definition at line 457 of file `offload_engine.h`.

Referenced by `add_signal()`, and `find_signal()`.

The documentation for this struct was generated from the following files:

- [offload_engine.h](#)
- [offload_engine.cpp](#)

6.12 FuncTable::Entry Struct Reference

Function table entry.

```
#include <offload_table.h>
```

Public Attributes

- const char [name](#)
Name of the function.
- void [func](#)
Address of the function.

6.12.1 Detailed Description

Function table entry.

This table contains functions created from offload regions.

Each entry consists of a pointer to the function's "key" and the function address.

Each shared library or executable may contain one such table.

The end of the table is marked with an entry whose name field has value -1.

Definition at line 79 of file `offload_table.h`.

6.12.2 Member Data Documentation

void FuncTable::Entry::func

Address of the function.

Definition at line 81 of file `offload_table.h`.

const char FuncTable::Entry::name

Name of the function.

Definition at line 80 of file `offload_table.h`.

Referenced by `FuncList::dump()`, `FuncList::find_addr()`, `FuncList::find_name()`, and `FuncList::max_name_length()`.

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

- [offload_table.h](#)

6.13 VarTable::Entry Struct Reference

Variable table entry.

```
#include <offload_table.h>
```

Public Attributes

- const char [name](#)
Name of the variable.
- void [addr](#)
Address of the variable.

6.13.1 Detailed Description

Variable table entry.

This table contains statically allocated variables marked with `__declspec(target(mic))` or `#pragma omp declare target`.

Each entry consists of a pointer to the variable's "key", the variable address and its size in bytes.

Because memory allocation is done from the host, the MIC table does not need the size of the variable.

Padding to make the table entry size a power of 2 is necessary to avoid "holes" between table contributions from different object files on Windows when debug information is specified with `/Zi`.

Definition at line 136 of file `offload_table.h`.

6.13.2 Member Data Documentation

void VarTable::Entry::addr

Address of the variable.

Definition at line 138 of file `offload_table.h`.

const char VarTable::Entry::name

Name of the variable.

Definition at line 137 of file `offload_table.h`.

Referenced by `VarList::dump()`, `host_entry_cmp()`, `VarList::Iterator::new_node()`, `VarList::Iterator::operator++()`, `VarList::table_copy()`, and `VarList::table_size()`.

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

- [offload_table.h](#)

6.14 FptrTableEntry Struct Reference

```
#include <offload_myo_host.h>
```

Public Attributes

- **const char funcName**

Function Name.

- **void funcAddr**

Function Address.

- **void localThunkAddr**

Local Thunk Address.

6.14.1 Detailed Description

Definition at line 21 of file `offload_myo_host.h`.

6.14.2 Member Data Documentation

void FptrTableEntry::funcAddr

Function Address.

Definition at line 25 of file `offload_myo_host.h`.

Referenced by `__offload_myo_fptr_table_register()`.

const char FptrTableEntry::funcName

Function Name.

Definition at line 23 of file `offload_myo_host.h`.

Referenced by `__offload_myo_fptr_table_register()`, `__offload_myoRegisterTables()`, and `fptr_table_entries()`.

void FptrTableEntry::localThunkAddr

Local Thunk Address.

Definition at line 27 of file `offload_myo_host.h`.

Referenced by `_offload_myo_fptr_table_register()`.

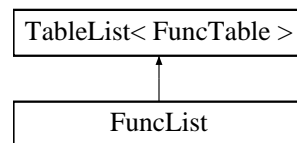
The documentation for this struct was generated from the following file:

- [offload_myo_host.h](#)

6.15 FuncList Class Reference

```
#include <offload_table.h>
```

Inheritance diagram for FuncList:



Public Member Functions

- [FuncList](#) (Node node=0)
- void [add.table](#) (Node node)
- const void [find.addr](#) (const char

const void FuncList::find_addr (const char name)

Definition at line 167 of file offload_table.cpp.

Referenced by OffloadDescriptor::offload(), and Marshaller::receive_func_ptr().

const char FuncList::find_name (const void addr)

Definition at line 189 of file offload_table.cpp.

Referenced by Marshaller::send_func_ptr().

int64_t FuncList::max_name_length (void)

Definition at line 211 of file offload_table.cpp.

Referenced by OffloadDescriptor::setup_descriptors().

6.15.4 Member Data Documentation

int64_t FuncList::m_max_name_len [private]

Definition at line 121 of file offload_table.h.

Referenced by add_table(), and max_name_length().

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

- [offload_table.h](#)
- [offload_table.cpp](#)

6.16 FuncTable Struct Reference

```
#include <offload_table.h>
```

Classes

- struct [Entry](#)

Function table entry.

Public Attributes

- const [Entry](#) entries
- int64_t max_name_len

6.16.1 Detailed Description

Definition at line 71 of file offload_table.h.

6.16.2 Member Data Documentation

const Entry FuncTable::entries

Definition at line 85 of file offload_table.h.

int64_t FuncTable::max_name_len

Definition at line 88 of file offload_table.h.

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

- [offload_table.h](#)

6.17 FunctionDescriptor Struct Reference

```
#include <offload_common.h>
```

Public Attributes

- long long [in_data_len](#)
- long long [out_data_len](#)
- uint8_t [console_enabled](#)
- uint8_t [timer_enabled](#)
- int [offload_report_level](#)
- int [offload_number](#)
- int [vars3oad](#)

uint8_t FunctionDescriptor::timer_enabled

Definition at line 424 of file `offload_common.h`.

Referenced by `OffloadDescriptor::offload()`, and `OffloadDescriptor::setup_misc_data()`.

int FunctionDescriptor::vars_num

Definition at line 430 of file `offload_common.h`.

Referenced by `OffloadDescriptor::offload()`, and `OffloadDescriptor::setup_misc_data()`.

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

- [offload_common.h](#)

6.18 Image Struct Reference

The target image is packed as follows.

```
#include <offload_host.h>
```

Public Attributes

- `int64_t size`
Size in bytes of the target binary name and contents.
- `char data []`
The name and contents of the target image.

6.18.1 Detailed Description

The target image is packed as follows.

1. 8 bytes containing the size of the target binary
2. a null-terminated string which is the binary name
3. `<size>` number of bytes that are the contents of the image

The address of symbol `__offload_target_image` is the address of this structure.

Definition at line 38 of file `offload_host.h`.

6.18.2 Member Data Documentation

char Image::data[]

The name and contents of the target image.

Definition at line 40 of file `offload_host.h`.

Referenced by `__offload_register_image()`, and `__offload_unregister_image()`.

int64_t Image::size

Size in bytes of the target binary name and contents.

Definition at line 39 of file `offload_host.h`.

Referenced by `__offload_register_image()`, and `__offload_unregister_image()`.

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

- [offload_host.h](#)

6.19 InitTableEntry Struct Reference

```
#include <offload_myo_host.h>
```

Public Attributes

- void([func](#))(void)

6.19.1 Detailed Description

Definition at line 34 of file offload_myo_host.h.

6.19.2 Member Data Documentation

void(InitTableEntry::func)(void)

Definition at line 40 of file offload_myo_host.h.

Referenced by `_offload_myo_shared_init_table_register()`.

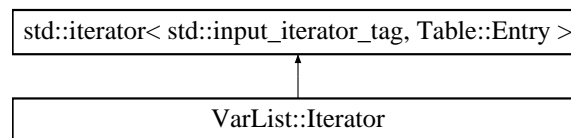
The documentation for this struct was generated from the following file:

- [offload_myo_host.h](#)

6.20 VarList::Iterator Class Reference

`#include <offload_table.h>`

Inheritance diagram for VarList::Iterator:



Public Member Functions

- [Iterator](#) ()
- [Iterator](#) (Node node)
- [Iterator](#) & [operator++](#) ()
- bool [operator==](#) (const [Iterator](#) bool (7onst 0 0 1 rg 0 0 1 RG [-278(Iter)10(ator)]T 0 g 0 G [-278(&(Iter)10ool)]T 9(Iterco 0 0 1

```
VarList::Iterator::Iterator ( Node  node ) [inline], [explicit]
```

Definition at line 170 of file offload_table.h.

6.20.3 Member Function Documentation

```
void VarList::Iterator::new_node ( Node  node ) [inline], [private] node ( Node
```

[pr

Definition at line 190 of file offload_table.h.

Definition at line 195 of file offload_table.h.

6.21.2 Member Data Documentation

`kmp_affinity_mask_t kmp_affinity_mask_target_t::mask`

Definition at line 337 of file `offload.h`.

Referenced by `kmp_create_affinity_mask_lrb()`, `kmp_destroy_affinity_mask_lrb()`, `kmp_get_affinity_lrb()`, `kmp_get_affinity_mask_proc_lrb()`, `kmp_set_affinity_lrb()`, `kmp_set_affinity_mask_proc_lrb()`, and `kmp_unset_affinity_mask_proc_lrb()`.

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

- [offload.h](#)

6.22 *mic_lib::kmp_create_affinity_mask_target* Interface Reference

Public Member Functions

- subroutine [kmp_create_affinity_mask_target](#) (`target_type`, `target_number`, `mask`)

6.22.1 Detailed Description

Definition at line 361 of file `mic_lib.f90`.

6.22.2 Constructor & Destructor Documentation

subroutine *mic_lib::kmp_create_affinity_mask_target::kmp_create_affinity_mask_target* (`integer (kind=c_int) target_type`, `integer (kind=c_int) target_number`, `integer (kind=c_intptr_t) mask`)

Definition at line 361 of file `mic_lib.f90`.

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

- [mic_lib.f90](#)

6.23 *mic_lib::kmp_destroy_affinity_mask_target* Interface Reference

Public Member Functions

- subroutine [kmp_destroy_affinity_mask_target](#) (`target_type`, `target_number`, `mask`)

6.23.1 Detailed Description

Definition at line 370 of file `mic_lib.f90`.

6.23.2 Constructor & Destructor Documentation

subroutine *mic_lib::kmp_destroy_affinity_mask_target::kmp_destroy_affinity_mask_target* (`integer (kind=c_int) target_type`, `integer (kind=c_int) target_number`, `integer (kind=c_intptr_t) mask`)

Definition at line 370 of file `mic_lib.f90`.

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

- [mic_lib.f90](#)

6.24 *mic_lib::kmp_get_affinity_mask_proc_target* Interface Reference

Public Member Functions

- `integer(kind=c_int)` function [kmp_get_affinity_mask_proc_target](#) (`target_type`, `target_number`, `proc`, `mask`)

6.24.1 Detailed Description

Definition at line 429 of file mic_lib.f90.

6.24.2 Constructor & Destructor Documentation

integer (kind=c_int) function mic_lib::kmp_get_affinity_mask_proc_target::kmp_get_affinity_mask_proc_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*, integer (kind=c_int) *proc*, integer (kind=c_intptr_t) *mask*)

Definition at line 429 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.25 mic_lib::kmp_get_affinity_max_proc_target Interface Reference

Public Member Functions

- integer(kind=c_int) function [kmp_get_affinity_max_proc_target](#) (target_type, target_number)

6.25.1 Detailed Description

Definition at line 399 of file mic_lib.f90.

6.25.2 Constructor & Destructor Documentation

integer (kind=c_int) function mic_lib::kmp_get_affinity_max_proc_target::kmp_get_affinity_max_proc_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*)

Definition at line 399 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.26 mic_lib::kmp_get_affinity_target Interface Reference

Public Member Functions

- integer(kind=c_int) function [kmp_get_affinity_target](#) (target_type, target_number, mask)

6.26.1 Detailed Description

Definition at line 389 of file mic_lib.f90.

6.26.2 Constructor & Destructor Documentation

integer (kind=c_int) function mic_lib::kmp_get_affinity_target::kmp_get_affinity_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*, integer (kind=c_intptr_t) *mask*)

Definition at line 389 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.27 mic_lib::kmp_get_blocktime_target Interface Reference

Public Member Functions

- integer(kind=c_int) function [kmp_get_blocktime_target](#) (target_type, target_number)

6.27.1 Detailed Description

Definition at line 305 of file mic_lib.f90.

6.27.2 Constructor & Destructor Documentation

integer (kind=c_int) function mic_lib::kmp_get_blocktime_target::kmp_get_blocktime_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*)

Definition at line 305 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.28 mic_lib::kmp_get_library_target Interface Reference

Public Member Functions

- integer(kind=c_int) function [kmp_get_library_target](#) (target_type, target_number)

6.28.1 Detailed Description

Definition at line 342 of file mic_lib.f90.

6.28.2 Constructor & Destructor Documentation

integer (kind=c_int) function mic_lib::kmp_get_library_target::kmp_get_library_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*)

Definition at line 342 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.29 mic_lib::kmp_get_stacksize_s_target Interface Reference

Public Member Functions

- integer(kind=c_int) function [kmp_get_stacksize_s_target](#) (target_type, target_number)

6.29.1 Detailed Description

Definition at line 289 of file mic_lib.f90.

6.29.2 Constructor & Destructor Documentation

integer (kind=c_int) function mic_lib::kmp_get_stacksize_s_target::kmp_get_stacksize_s_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*)

Definition at line 289 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.30 mic_lib::kmp_get_stacksize_target Interface Reference

Public Member Functions

- integer(kind=c_int) function [kmp_get_stacksize_target](#) (target_type, target_number)

6.31. MIC_LIB::KMP_SET_AFFINITY

6.33.1 Detailed Description

Definition at line 297 of file mic_lib.f90.

6.33.2 Constructor & Destructor Documentation

subroutine mic_lib::kmp_set_blocktime_target::kmp_set_blocktime_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*, integer (kind=c_int) *time*)

Definition at line 297 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.34 mic_lib::kmp_set_defaults_target Interface Reference

Public Member Functions

- subroutine [kmp_set_defaults_target](#) (target_type, target_number, defaults)

6.34.1 Detailed Description

Definition at line 350 of file mic_lib.f90.

6.34.2 Constructor & Destructor Documentation

subroutine mic_lib::kmp_set_defaults_target::kmp_set_defaults_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*, character (kind=c_char), dimension() *defaults*)

Definition at line 350 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.35 mic_lib::kmp_set_library_serial_target Interface Reference

Public Member Functions

- subroutine [kmp_set_library_serial_target](#) (target_type, target_number)

6.35.1 Detailed Description

Definition at line 313 of file mic_lib.f90.

6.35.2 Constructor & Destructor Documentation

subroutine mic_lib::kmp_set_library_serial_target::kmp_set_library_serial_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*)

Definition at line 313 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.36 mic_lib::kmp_set_library_target Interface Reference

Public Member Functions

- subroutine [kmp_set_library_target](#) (target_type, target_number, mode)

6.36.1 Detailed Description

Definition at line 334 of file mic_lib.f90.

6.36.2 Constructor & Destructor Documentation

subroutine mic_lib::kmp_set_library_target::kmp_set_library_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*, integer (kind=c_int) *mode*)

Definition at line 334 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.37 mic_lib::kmp_set_library_throughput_target Interface Reference

Public Member Functions

- subroutine [kmp_set_library_throughput_target](#) (target_type, target_number)

6.37.1 Detailed Description

Definition at line 327 of file mic_lib.f90.

6.37.2 Constructor & Destructor Documentation

subroutine mic_lib::kmp_set_library_throughput_target::kmp_set_library_throughput_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*)

Definition at line 327 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.38 mic_lib::kmp_set_library_turnaround_target Interface Reference

Public Member Functions

- subroutine [kmp_set_library_turnaround_target](#) (target_type, target_number)

6.38.1 Detailed Description

Definition at line 320 of file mic_lib.f90.

6.38.2 Constructor & Destructor Documentation

subroutine mic_lib::kmp_set_library_turnaround_target::kmp_set_library_turnaround_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*)

Definition at line 320 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.39 mic_lib::kmp_set_stacksize_s_target Interface Reference

Public Member Functions

- subroutine [kmp_set_stacksize_s_target](#) (target_type, target_number, size)

6.39.1 Detailed Description

Definition at line 281 of file mic_lib.f90.

6.39.2 Constructor & Destructor Documentation

subroutine mic_lib::kmp_set_stacksize_s_target::kmp_set_stacksize_s_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*, integer (kind=c_int) *size*)

Definition at line 281 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.40 mic_lib::kmp_set_stacksize_target Interface Reference

Public Member Functions

- subroutine [kmp_set_stacksize_target](#) (target_type, target_number, size)

6.40.1 Detailed Description

Definition at line 265 of file mic_lib.f90.

6.40.2 Constructor & Destructor Documentation

subroutine mic_lib::kmp_set_stacksize_target::kmp_set_stacksize_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*, integer (kind=c_int) *size*)

Definition at line 265 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.41 mic_lib::kmp_unset_affinity_mask_proc_target Interface Reference

Public Member Functions

- integer(kind=c_int) function [kmp_unset_affinity_mask_proc_target](#) (target_type, target_number, proc, mask)

6.41.1 Detailed Description

Definition at line 418 of file mic_lib.f90.

6.41.2 Constructor & Destructor Documentation

integer (kind=c_int) function mic_lib::kmp_unset_affinity_mask_proc_target::kmp_unset_affinity_mask_proc_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*, integer (kind=c_int) *proc*, integer (kind=c_intptr_t) *mask*)

Definition at line 418 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.42 Marshaller Class Reference

```
#include <offload_common.h>
```

Public Member Functions

- [Marshaller](#) ()
- long long [get_tfr_size](#) () const
- char [get_buffer_start](#) () const
- long long [get_buffer_size](#) () const
- void [init_buffer](#) (char d, long long s)
- void [send_data](#) (const void data, int64_t length)
- void [receive_data](#) (void data, int64_t length)
- void [send_func_ptr](#) (const void data)
- void [receive_func_ptr](#) (const void data)

Private Attributes

- char [buffer_start](#)
- char [buffer_ptr](#)
- long long [buffer_size](#)
- long long [tfr](#)

[buffer](#)

void Marshaller::receive_func_ptr (const void *data*)

Definition at line 114 of file `offload_common.cpp`.

Referenced by `OffloadDescriptor::scatter_copyin_data()`, and `OffloadDescriptor::scatter_copyout_data()`.

void Marshaller::send_data (const void *data*, int64_t *length*)

Definition at line 57 of file `offload_common.cpp`.

Referenced by `OffloadDescriptor::gather_copyin_data()`, and `OffloadDescriptor::gather_copyout_data()`.

void Marshaller::send_func_ptr (const void *data*)

Definition at line 82 of file `offload_common.cpp`.

Referenced by `OffloadDescriptor::gather_copyin_data()`, and `OffloadDescriptor::gather_copyout_data()`.

6.42.4 Member Data Documentation

char Marshaller::buffer_ptr [private]

Definition at line 337 of file `offload_common.h`.

Referenced by `init_buffer()`, `receive_data()`, `receive_func_ptr()`, `send_data()`, and `send_func_ptr()`.

long long Marshaller::buffer_size [private]

Definition at line 340 of file `offload_common.h`.

Referenced by `get_buffer_size()`, and `init_buffer()`.

char Marshaller::buffer_start [private]

Definition at line 334 of file `offload_common.h`.

Referenced by `get_buffer_start()`, and `init_buffer()`.

long long Marshaller::tfr_size [private]

Definition at line 343 of file `offload_common.h`.

Referenced by `get_tfr_size()`, `receive_data()`, `receive_func_ptr()`, `send_data()`, and `send_func_ptr()`.

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

- [offload_common.h](#)
- [offload_common.cpp](#)

6.43 MemRange Class Reference

```
#include <offload_engine.h>
```

Public Member Functions

- [MemRange](#) ()
- [MemRange](#) (const void *addr*, uint64_t *len*)
- const void [start](#) () const
- const void [end](#) () const
- uint64_t [length](#) () const
- bool [overlaps](#) (const [MemRange](#) &*o*) const
- bool [contains](#) (const [MemRange](#) &*o*) const

Private Attributes

- const void [m.start](#)
- uint64_t [m.length](#)

6.43.1 Detailed Description

Definition at line 23 of file offload_engine.h.

6.43.2 Constructor & Destructor Documentation

MemRange::MemRange () [inline]

Definition at line 25 of file offload_engine.h.

MemRange::MemRange (const void *addr*, uint64_t *len*) [inline]

Definition at line 26 of file offload_engine.h.

6.43.3 Member Function Documentation

bool MemRange::contains (const MemRange & *o*) const [inline]

Definition at line 48 of file offload_engine.h.

Referenced by OffloadDescriptor::alloc_ptr_data(), and OffloadDescriptor::find_ptr_data().

const void MemRange::end () const [inline]

Definition at line 32 of file offload_engine.h.

Referenced by contains(), and overlaps().

uint64_t MemRange::length () const [inline]

Definition at line 36 of file offload_engine.h.

Referenced by OffloadDescriptor::alloc_ptr_data(), OffloadDescriptor::find_ptr_data(), and OffloadDescriptor::init_static_ptr_data().

bool MemRange::overlaps (const MemRange & *o*) const [inline]

Definition at line 41 of file offload_engine.h.

Referenced by PtrData::operator<(), and AutoData::operator<().

const void MemRange::start () const [inline]

Definition at line 28 of file offload_engine.h.

Referenced by OffloadDescriptor::alloc_ptr_data(), contains(), OffloadDescriptor::find_ptr_data(), OffloadDescriptor::init_static_ptr_data(), PtrData::operator<(), AutoData::operator<(), overlaps(), OffloadDescriptor::receive_pointer_data(), and OffloadDescriptor::setup_descriptors().

6.43.4 Member Data Documentation

uint64_t MemRange::m_length [private]

Definition at line 54 of file offload_engine.h.

Referenced by end(), and length().

const void MemRange::m_start [private]

Definition at line 53 of file offload_engine.h.

Referenced by end(), and start().

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

- [offload_engine.h](#)

6.44 mic_lib Module Reference

Data Types

- interface [kmp_create_affinity_mask_target](#)
- interface [kmp_destroy_affinity_mask_target](#)
- interface [kmp_get_affinity_mask_proc_target](#)
- interface [kmp_get_affinity_max_proc_target](#)
- interface [kmp_get_affinity_target](#)
- interface [kmp_get_blocktime_target](#)
- interface [kmp_get_library_target](#)
- interface [kmp_get_stacksize_s_target](#)
- interface [kmp_get_stacksize_target](#)
- interface [kmp_set_affinity_mask_proc_target](#)
- interface [kmp_set_affinity_target](#)
- interface [kmp_set_blocktime_target](#)
- interface [kmp_set_defaults_target](#)
- interface [kmp_set_library_serial_target](#)
- interface [kmp_set_library_target](#)
- interface [kmp_set_library_throughput_target](#)
- interface [kmp_set_library_turnaround_target](#)
- interface [kmp_set_stacksize_s_target](#)
- interface [kmp_set_stacksize_target](#)
- interface [kmp_unset_affinity_mask_proc_target](#)
- interface [offload_get_device_number](#)
- interface [offload_get_physical_device_number](#)
- interface [offload_number_of_devices](#)
- interface [offload_report](#)
- interface [offload_signaled](#)
- type [offload_status](#)
- interface [omp_destroy_lock_target](#)
- interface [omp_destroy_nest_lock_target](#)
- interface [omp_get_dynamic_target](#)
- interface [omp_get_max_threads_target](#)
- interface [omp_get_nested_target](#)
- interface [omp_get_num_procs_target](#)
- interface [omp_get_schedule_target](#)
- interface [omp_init_lock_target](#)
- interface [omp_init_nest_lock_target](#)
- interface [omp_set_dynamic_target](#)
- interface [omp_set_lock_target](#)
- interface [omp_set_nest_lock_target](#)
- interface [omp_set_nested_target](#)
- interface [omp_set_num_threads_target](#)
- interface [omp_set_schedule_target](#)
- interface [omp_test_lock_target](#)
- interface [omp_test_nest_lock_target](#)
- interface [omp_unset_lock_target](#)
- interface [omp_unset_nest_lock_target](#)

Public Attributes

- integer, parameter [target_mic](#) =2
- integer, parameter [default_target_type](#) =[target_mic](#)
- integer, parameter [default_target_number](#) =0

6.44.1 Detailed Description

Definition at line 19 of file mic_lib.f90.

6.44.2 Member Data Documentation

integer, parameter mic_lib::default_target_number =0

Definition at line 24 of file mic_lib.f90.

integer, parameter mic_lib::default_target_type =target_mic

Definition at line 23 of file mic_lib.f90.

integer, parameter mic_lib::target_mic =2

Definition at line 22 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.45 MicEnvVar Struct Reference

```
#i ncl ude <offl oad_env. h>
```

Classes

- struct [CardEnvVars](#)
- struct [VarValue](#)

Public Member Functions

- [MicEnvVar](#) ()
- [MicEnvVar](#) ()
- void [analyze_env_var](#) (char env_var_string)
- char [create_envron_for_card](#) (int card_num)
- [MicEnvVarKind](#) [get_env_var_kind](#) (char env_var_string, int card_number, char env_var_name, int env_var_name_length, char env_var_def)
- void [add_env_var](#) (int card_number, char env_var_name, int env_var_name_length, char env_var_def)
- void [set_prefix](#) (const char pref)

Static Public Attributes

- static const int [any_card](#) = -1

Private Member Functions

- void [mic_parse_env_var_list](#) (int card_number, char env_var_def)
- [CardEnvVars](#) [get_card](#) (int number)

Private Attributes

- const char [prefix](#)
- std::list< struct [CardEnvVars](#) > [card_spec_list](#)
- [CardEnvVars](#) [common_vars](#)

6.45.1 Detailed Description

Definition at line 26 of file offload_env.h.

6.45.2 Constructor & Destructor Documentation

MicEnvVar::MicEnvVar () [inline]

Definition at line 28 of file offload.env.h.

MicEnvVar::~MicEnvVar ()

Definition at line 20 of file offload.env.cpp.

6.45.3 Member Function Documentation

void MicEnvVar::add_env_var (int *card_number*, char *env_var_name*, int *env_var_name_length*, char *env_var_def*)

Definition at line 111 of file offload.env.cpp.

Referenced by `analyze_env_var()`, and `mic_parse_env_var_list()`.

void MicEnvVar::analyze_env_var (char *env_var_string*)

Definition at line 81 of file offload.env.cpp.

Referenced by `_offload_init_library_once()`.

char MicEnvVar::create_envron_for_card (int *card_num*)

Definition at line 310 of file offload.env.cpp.

Referenced by `Engine::init_process()`.

MicEnvVar::CardEnvVars MicEnvVar::get_card (int *number*) [private]

Definition at line 46 of file offload.env.cpp.

Referenced by `add_env_var()`, and `create_envron_for_card()`.

MicEnvVarKind MicEnvVar::get_env_var_kind (char *env_var_string*, int *card_number*, char *env_var_name*, int *env_var_name_length*, char *env_var_def*)

Definition at line 156 of file offload.env.cpp.

Referenced by `analyze_env_var()`.

void MicEnvVar::mic_parse_env_var_list (int *card_number*, char *env_var_def*) [private]

Definition at line 228 of file offload.env.cpp.

Referenced by `analyze_env_var()`.

void MicEnvVar::set

CardEnvVars MicEnvVar::common_vars [private]

Definition at line 88 of file offload.env.h.

Referenced by `add_env_var()`, and `get_card()`.

const char MicEnvVar::prefix [private]

Definition at line 86 of file offload.env.h.

Referenced by `create_envron_for_card()`, `get_env_var_kind()`, and `set_prefix()`.

The documentation for this struct was generated from the following files:

- [offload.env.h](#)
- [offload.env.cpp](#)

6.46 mutex_locker_t Struct Reference

`#include <offload_util.h>`

Public Member Functions

- [mutex_locker_t \(mutex_t &mutex\)](#)
- [mutex_locker_t \(\)](#)

Private Attributes

- [mutex_t & m_mutex](#)

6.46.1 Detailed Description

Definition at line 94 of file offload_util.h.

6.46.2 Constructor & Destructor Documentation

mutex_locker_t::mutex_locker_t (mutex_t & mutex) [inline]

Definition at line 95 of file offload_util.h.

mutex_locker_t::mutex_locker_t () [inline]

Definition at line 99 of file offload_util.h.

6.46.3 Member Data Documentation

mutex_t& mutex_locker_t::m_mutex [private]

Definition at line 104 of file offload_util.h.

Referenced by `mutex_locker_t()`, and `mutex_locker_t()`.

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

- [offload_util.h](#)

6.47 mutex_t Struct Reference

`#include <offload_util.h>`

Public Member Functions

- [mutex_t\(\)](#)
- [mutex_t\(\)](#)
- void [lock\(\)](#)
- void [unlock\(\)](#)

Private Attributes

- pthread_mutex_t [m_lock](#)

6.47.1 Detailed Description

Definition at line 53 of file offload_util.h.

6.47.2 Constructor & Destructor Documentation

mutex_t::mutex_t() [inline]

Definition at line 54 of file offload_util.h.

mutex_t::mutex_t() [inline]

Definition at line 62 of file offload_util.h.

6.47.3 Member Function Documentation

void mutex_t::lock() [inline]

Definition at line 70 of file offload_util.h.

Referenced by `_offload_register_image()`, `Engine::add_lib()`, `Engine::add_signal()`, `TableList< VarTable >::add_table()`, `FuncList::dump()`, `VarList::dump()`, `FuncList::find_addr()`, `FuncList::find_name()`, `Engine::find_ptr_data()`, `Engine::find_signal()`, `Engine::insert_ptr_data()`, `FuncList::max_name_length()`, `mutex_locker_t::mutex_locker_t()`, `mic_lib::omp_destroy_lock_target::omp_destroy_lock_target()`, `mic_lib::omp_destroy_nest_lock_target::omp_destroy_nest_lock_target()`, `mic_lib::omp_init_lock_target::omp_init_lock_target()`, `mic_lib::omp_init_nest_lock_target::omp_init_nest_lock_target()`, `mic_lib::omp_set_lock_target::omp_set_lock_target()`, `mic_lib::omp_set_nest_lock_target::omp_set_nest_lock_target()`, `mic_lib::omp_test_lock_target::omp_test_lock_target()`, `mic_lib::omp_test_nest_lock_target::omp_test_nest_lock_target()`, `mic_lib::omp_unset_lock_target::omp_unset_lock_target()`, `mic_lib::omp_unset_nest_lock_target::omp_unset_nest_lock_target()`, `Engine::remove_ptr_data()`, and `TableList< VarTable >::remove_table()`.

void mutex_t::unlock() [inline]

Definition at line 78 of file offload_util.h.

Referenced by `_offload_register_image()`, `Engine::add_lib()`, `Engine::add_signal()`, `TableList< VarTable >::add_table()`, `OffloadDescriptor::alloc_ptr_data()`, `FuncList::dump()`, `VarList::dump()`, `FuncList::find_addr()`, `FuncList::find_name()`, `Engine::find_ptr_data()`, `Engine::find_signal()`, `Engine::insert_ptr_data()`, `FuncList::max_name_length()`, `Engine::remove_ptr_data()`, `TableList< VarTable >::remove_table()`, and `mutex_locker_t::mutex_locker_t()`.

6.47.4 Member Data Documentation

pthread_mutex_t mutex_t::m_lock [private]

Definition at line 90 of file offload_util.h.

Referenced by `lock()`, `mutex_t()`, `unlock()`, and `mutex_t()`.

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

- [offload_util.h](#)

6.48 MyoTable Struct Reference

Public Member Functions

- [MyoTable](#) ([SharedTableEntry](#) tab, int len)

Public Attributes

- [SharedTableEntry](#) var_tab
- int [var_tab.len](#)

6.48.1 Detailed Description

Definition at line 306 of file `offload_myo_host.cpp`.

6.48.2 Constructor & Destructor Documentation

`MyoTable::MyoTable (SharedTableEntry tab, int len) [inline]`

Definition at line 308 of file `offload_myo_host.cpp`.

6.48.3 Member Data Documentation

`SharedTableEntry MyoTable::var_tab`

Definition at line 311 of file `offload_myo_host.cpp`.

`int MyoTable::var_tab.len`

Definition at line 312 of file `offload_myo_host.cpp`.

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

- [offload_myo_host.cpp](#)

6.49 MyoWrapper Class Reference

Public Member Functions

- [MyoWrapper](#) ()
- bool [is_available](#) () const
- bool [LoadLibrary](#) (void)
- void [UnloadLibrary](#) (void)
- void [LibInit](#) (void arg, void func) const
- void [LibFini](#) (void) const
- void [SharedMalloc](#) (size_t size) const
- void [SharedFree](#) (void ptr) const
- void [SharedAlignedMalloc](#) (size_t size, size_t align) const
- void [SharedAlignedFree](#) (void ptr) const
- void [Acquire](#) (void) const
- void [Release](#) (void) const
- void [HostVarTablePropagate](#) (void table, int num_entries) const
- void [HostFptrTableRegister](#) (void table, int num_entries, int ordered) const
- void [RemoteThunkCall](#) (void thunk, void args, int device)
- MyoIRFuncCallHandle [RemoteCall](#) (char func, void args, int device) const
- void [GetResult](#) (MyoIRFuncCallHandle handle) const

Private Member Functions

- void [CheckResult](#) (const char func, MyoError error) const

Private Attributes

- void `m_lib_handle`
- bool `m_is_available`
- MyoError(`m_lib_init`)(void , void)
- void(`m_lib_fini`)(void)
- void (`m_shared_malloc`)(size_t)
- void(`m_shared_free`)(void)
- void (`m_shared_aligned_malloc`)(size_t, size_t)
- void(`m_shared_aligned_free`)(void)
- MyoError(`m_acquire`)(void)
- MyoError(`m_release`)(void)
- MyoError(`m_host_var_table_propagate`)(void , int)
- MyoError(`m_host_fptr_table_register`)(void , int, int)
- MyoError(`m_remote_thunk_call`)(void , void , int)
- MyoIRFuncCallHandle(`m_remote_call`)(char , void , int)
- MyoError(`m_get_result`)(MyoIRFuncCallHandle)

6.49.1 Detailed Description

Definition at line 36 of file `offload_myo_host.cpp`.

6.49.2 Constructor & Destructor Documentation

MyoWrapper::MyoWrapper () [inline]

Definition at line 38 of file `offload_myo_host.cpp`.

6.49.3 Member Function Documentation

void MyoWrapper::Acquire (void) const [inline]

Definition at line 91 of file `offload_myo_host.cpp`.

Referenced by `__intel_cilk_for_32_offload()`, `__intel_cilk_for_64_offload()`, and `__offload_myoIRemoteThunkCall()`.

void MyoWrapper::CheckResult (const char *func*, MyoError *error*) const [inline], [private]

Definition at line 135 of file `offload_myo_host.cpp`.

Referenced by `Acquire()`, `GetResult()`, `HostFptrTableRegister()`, `HostVarTablePropagate()`, `LibInit()`, `Release()`, and `RemoteThunkCall()`.

void MyoWrapper::GetResult (MyoIRFuncCallHandle *handle*) const [inline]

Definition at line 129 of file `offload_myo_host.cpp`.

Referenced by `__intel_cilk_for_32_offload()`, and `__intel_cilk_for_64_offload()`.

void MyoWrapper::HostFptrTableRegister (void *table*, int *num_entries*, int *ordered*) const [inline]

Definition at line 108 of file `offload_myo_host.cpp`.

Referenced by `__offload_myo_fptr_table_register()`.

void MyoWrapper::HostVarTablePropagate (void *table*, int *num_entries*) const [inline]

Definition at line 103 of file `offload_myo_host.cpp`.

Referenced by `__offload_myoInit()`.

bool MyoWrapper::is_available () const [inline]

Definition at line 41 of file `offload_myo_host.cpp`.

Referenced by `__offload_myo_fptr_table_register()`, and `__offload_myoLoadLibrary()`.

void MyoWrapper::LibFini (void) const [inline]

Definition at line 62 of file offload_myo_host.cpp.

Referenced by `_offload_myoFini()`.

void MyoWrapper::LibInit (void arg, void func) const [inline]

Definition at line 56 of file offload_myo_host.cpp.

Referenced by `_offload_myolnit_once()`.

bool MyoWrapper::LoadLibrary (void)

Definition at line 162 of file offload_myo_host.cpp.

Referenced by `_offload_myoLoadLibrary_once()`.

void MyoWrapper::Release (void) const [inline]

Definition at line 97 of file offload_myo_host.cpp.

Referenced by `_intel_cilk_for_32_offload()`, `_intel_cilk_for_64_offload()`, and `_offload_myoiRemotelThunkCall()`.

MyoiRFuncCallHandle MyoWrapper::RemoteCall (char func, void args, int device) const [inline]

Definition at line 123 of file offload_myo_host.cpp.

Referenced by `_intel_cilk_for_32_offload()`, and `_intel_cilk_for_64_offload()`.

void MyoWrapper::RemoteThunkCall (void thunk, void args, int device) [inline]

Definition at line 117 of file offload_myo_host.cpp.

Referenced by `_offload_myoiRemotelThunkCall()`.

void MyoWrapper::SharedAlignedFree (void ptr) const [inline]

Definition at line 85 of file offload_myo_host.cpp.

Referenced by `_Offload_shared_aligned_free()`.

void MyoWrapper::SharedAlignedMalloc (size_t size, size_t align) const [inline]

Definition at line 79 of file offload_myo_host.cpp.

Referenced by `_Offload_shared_aligned_malloc()`.

void MyoWrapper::SharedFree (void ptr) const [inline]

Definition at line 73 of file offload_myo_host.cpp.

Referenced by `_Offload_shared_free()`.

void MyoWrapper::SharedMalloc (size_t size) const [inline]

Definition at line 67 of file offload_myo_host.cpp.

Referenced by `_Offload_shared_malloc()`.

void MyoWrapper::UnloadLibrary (void) [inline]

Definition at line 48 of file offload_myo_host.cpp.

Referenced by `LoadLibrary()`.

6.49.4 Member Data Documentation**MyoError(MyoWrapper::m_acquire)(void) [private]**

Definition at line 153 of file offload_myo_host.cpp.

Referenced by Acquire(), and LoadLibrary().

MyoError(MyoWrapper::m_get_result)(MyoiRFuncCallHandle) [private]

Definition at line 159 of file offload_myo_host.cpp.

Referenced by GetResult(), and LoadLibrary().

MyoError(MyoWrapper::m_host_fptr_table_register)(void , int, int) [private]

Definition at line 156 of file offload_myo_host.cpp.

Referenced by HostFptrTableRegister(), and LoadLibrary().

MyoError(MyoWrapper::m_host_var_table_propagate)(void , int) [private]

Definition at line 155 of file offload_myo_host.cpp.

Referenced by HostVarTablePropagate(), and LoadLibrary().

bool MyoWrapper::m_is_available [private]

Definition at line 144 of file offload_myo_host.cpp.

Referenced by is_available(), and LoadLibrary().

void(MyoWrapper::m_lib_fini)(void) [private]

Definition at line 148 of file offload_myo_host.cpp.

Referenced by LibFini(), and LoadLibrary().

void MyoWrapper::m_lib_handle [private]

Definition at line 143 of file offload_myo_host.cpp.

Referenced by LoadLibrary().

MyoError(MyoWrapper::m_lib_init)(void , void) [private]

Definition at line 147 of file offload_myo_host.cpp.

Referenced by LibInit(), and LoadLibrary().

MyoError(MyoWrapper::m_release)(void) [private]

Definition at line 154 of file offload_myo_host.cpp.

Referenced by LoadLibrary(), and Release().

MyoiRFuncCallHandle(MyoWrapper::m_remote_call)(char , void , int) [private]

Definition at line 158 of file offload_myo_host.cpp.

Referenced by LoadLibrary(), and RemoteCall().

MyoError(MyoWrapper::m_remote_thunk_call)(void , void , int) [private]

Definition at line 157 of file offload_myo_host.cpp.

Referenced by LoadLibrary(), and RemoteThunkCall().

void(MyoWrapper::m_shared_aligned_free)(void) [private]

Definition at line 152 of file offload_myo_host.cpp.

Referenced by LoadLibrary(), and SharedAlignedFree().

void (MyoWrapper::m_shared_aligned_malloc)(size_t, size_t) [private]

Definition at line 151 of file offload_myo_host.cpp.

Referenced by LoadLibrary(), and SharedAlignedMalloc().

void(MyoWrapper::m_shared_free)(void) [private]

Definition at line 150 of file offload_myo_host.cpp.

Referenced by LoadLibrary(), and SharedFree().

void (MyoWrapper::m_shared_malloc)(size_t) [private]

Definition at line 149 of file offload_myo_host.cpp.

Referenced by LoadLibrary(), and SharedMalloc().

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

- [offload_myo_host.cpp](#)

6.50 TableList< T >::Node Struct Reference

```
#include <offload_table.h>
```

Public Attributes

- [Table table](#)
- [Node prev](#)
- [Node next](#)

6.50.1 Detailed Description

template<typename T>struct TableList< T >::Node

Definition at line 28 of file offload_table.h.

6.50.2 Member Data Documentation

template<typename T> Node TableList< T >::Node::next

Definition at line 31 of file offload_table.h.

Referenced by TableList< VarTable >::remove_table().

template<typename T> Node TableList< T >::Node::prev

Definition at line 30 of file offload_table.h.

Referenced by TableList< VarTable >::add_table().

template<typename T> Table TableList< T >::Node::table

Definition at line 29 of file offload_table.h.

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

- [offload_table.h](#)

6.51 mic_lib::offload_get_device_number Interface Reference

Public Member Functions

- integer(kind=c.int) function [offload_get_device_number](#) ()

6.51.1 Detailed Description

Definition at line 70 of file `mic.lib.f90`.

6.51.2 Constructor & Destructor Documentation

`integer (kind=c_int) function mic.lib::offload_get_device_number::offload_get_device_number ()`

Definition at line 70 of file `mic.lib.f90`.

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

- [mic.lib.f90](#)

6.52 `mic.lib::offload_get_physical_device_number` Interface Reference

Public Member Functions

- `integer(kind=c_int) function offload_get_physical_device_number ()`

6.52.1 Detailed Description

Definition at line 78 of file `mic.lib.f90`.

6.52.2 Constructor & Destructor Documentation

`integer (kind=c_int) function mic.lib::offload_get_physical_device_number::offload_get_physical_device_number ()`

Definition at line 78 of file `mic.lib.f90`.

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

- [mic.lib.f90](#)

6.53 `mic.lib::offload_number_of_devices` Interface Reference

Public Member Functions

- `integer(kind=c_int) function offload_number_of_devices ()`

6.53.1 Detailed Description

Definition at line 43 of file `mic.lib.f90`.

6.53.2 Constructor & Destructor Documentation

`integer (kind=c_int) function mic.lib::offload_number_of_devices::offload_number_of_devices ()`

Definition at line 43 of file `mic.lib.f90`.

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

- [mic.lib.f90](#)

6.54 `mic.lib::offload_report` Interface Reference

Public Member Functions

- subroutine [offload_report](#) (val)

6.54.1 Detailed Description

Definition at line 62 of file mic_lib.f90.

6.54.2 Constructor & Destructor Documentation

subroutine mic_lib::offload_report::offload_report (integer (kind=c_int) *val*)

Definition at line 62 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.55 mic_lib::offload_signed Interface Reference

Public Member Functions

- integer(kind=c_int) function [offload_signed](#) (target_number, signal)

6.55.1 Detailed Description

Definition at line 52 of file mic_lib.f90.

6.55.2 Constructor & Destructor Documentation

integer (kind=c_int) function mic_lib::offload_signed::offload_signed (integer (kind=c_int) *target_number*, integer (kind=c_int64_t) *signal*)

Definition at line 52 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.56 mic_lib::offload_status Type Reference

Public Attributes

- integer(kind=c_int) [result](#) = OFFLOAD_DISABLED
- integer(kind=c_int) [device_number](#) = -1
- integer(kind=c_size_t) [data_sent](#) = 0
- integer(kind=c_size_t) [data_received](#) = 0

6.56.1 Detailed Description

Definition at line 35 of file mic_lib.f90.

6.56.2 Member Data Documentation

integer(kind=c_size_t) mic_lib::offload_status::data_received = 0

Definition at line 39 of file mic_lib.f90.

integer(kind=c_size_t) mic_lib::offload_status::data_sent = 0

Definition at line 38 of file mic_lib.f90.

integer(kind=c_int) mic_lib::offload_status::device_number = -1

Definition at line 37 of file mic_lib.f90.

`integer(kind=c_int) mic_lib::offload_status::result = OFFLOAD_DISABLED`

Definition at line 36 of file `mic_lib.f90`.

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

- [mic_lib.f90](#)

6.57 OffloadDescriptor Class Reference

```
#include <offload_host.h>
```

Classes

- class [ReadArrElements](#)
- struct [VarExtra](#)

Public Member Functions

- [OffloadDescriptor](#) (int index, [_Offload_status](#) status, bool is_mandatory, bool is_omp, OffloadHostTimerData timer_data)
- [OffloadDescriptor](#) ()
- bool [offload](#) (const char name, bool is_empty, [VarDesc](#) vars, [VarDesc2](#) vars2, int vars_total, const void waits, int num_waits, const void signal, int entry_id, const void stack_addr)
- bool [offload_finish](#) ()
- bool [is_signaled](#) ()
- OffloadHostTimerData [get_timer_data](#) () const
- [OffloadDescriptor](#) ()
- void [scatter_copyin_data](#) ()
- void [gather_copyout_data](#) ()
- void [merge_var_descs](#) ([VarDesc](#) vars, [VarDesc2](#) vars2, int vars_total)
- int [get_offload_number](#) () const
- void [set_offload_number](#) (int number)

Static Public Member Functions

- static void [offload](#) (uint32_t buffer_count, void buffers, void misc_data, uint16_t misc_data_len, void return_data, uint16_t return_data_len)

Private Types

- typedef std::list< COIBUFFER > [BufferList](#)
- typedef std::list< void > [BufferList](#)

Private Member Functions

- bool [wait_dependencies](#) (const void waits, int num_waits)
- bool [setup_descriptors](#) ([VarDesc](#) vars, [VarDesc2](#) vars2, int vars_total, int entry_id, const void stack_addr)
- bool [setup_misc_data](#) (const char name)
- bool [send_pointer_data](#) (bool is_async)
- bool [send_noncontiguous_pointer_data](#) (int i, [PtrData](#) src_buf, [PtrData](#) dst_buf, COIEVENT event)
- bool [recieve_noncontiguous_pointer_data](#) (int i, char src_data, COIBUFFER dst_buf, COIEVENT event)
- bool [gather_copyin_data](#) ()
- bool [compute](#) ()
- bool [receive_pointer_data](#) (bool is_async)
- bool [scatter_copyout_data](#) ()
- void [cleanup](#) ()
- bool [find_ptr_data](#) ([PtrData](#) &ptr_data, void base, int64_t disp, int64_t length, bool error_does_not_exist=true)

- bool [alloc_ptr_data](#) ([PtrData](#) &ptr_data, void base, int64_t disp, int64_t length, int64_t alloc_disp, int align)
- bool [init_static_ptr_data](#) ([PtrData](#) ptr_data)
- bool [init_mic_address](#) ([PtrData](#) ptr_data)
- bool [offload_stack_memory_manager](#) (const void stack_begin, int routine_id, int buf_size, int align, bool is_new)
- bool [nullify_target_stack](#) (COIBUFFER targ_buf, uint64_t size)
- bool [gen_var_descs_for_pointer_array](#) (int i)
- void [report_coi_error](#) ([error_types](#) msg, COIRERESULT res)
- [_Offload_result](#) [translate_coi_error](#) (COIRERESULT res) const
- [OffloadDescriptor](#) ()

Private Attributes

- [PtrData](#) m_stack_ptr_data
- [PtrDataList](#) m_destroy_stack
- [Engine](#) & m_device
- bool m_is_mandatory
- const bool m_is_openmp
- [Marshaller](#) m_in
- [Marshaller](#) m_out
- [BufferList](#) m_compute_buffers
- [BufferList](#) m_destroy_buffers
- [VarDesc](#) m_vars
- [VarExtra](#) m_vars_extra
- int m_vars_total
- [_Offload_status](#) m_status
- [FunctionDescriptor](#) m_func_desc
- uint32_t m_func_desc_size
- COIBUFFER m_inout_buf
- COIEVENT m_in_deps
- uint32_t m_in_deps_total
- COIEVENT m_out_deps
- uint32_t m_out_deps_total
- [OffloadHostTimerData](#) m_timer_data
- uint64_t m_in_datalen
- uint64_t m_out_datalen
- bool m_need_runfunction
- [BufferList](#) m_buffers
- int m_offload_number

6.57.1 Detailed Description

Definition at line 44 of file `offload_host.h`.

6.57.2 Member Typedef Documentation

```
typedef std::list<void > OffloadDescriptor::BufferList [private]
```

Definition at line 64 of file `offload_target.h`.

```
typedef std::list<COIBUFFER> OffloadDescriptor::BufferList [private]
```

Definition at line 141 of file `offload_host.h`.

6.57.3 Constructor & Destructor Documentation

OffloadDescriptor::OffloadDescriptor (int *index*, _Offload_status *status*, bool *is_mandatory*, bool *is_openmp*, OffloadHostTimerData *timer_data*) [inline]

Definition at line 47 of file `offload_host.h`.

OffloadDescriptor:: OffloadDescriptor () [inline]

Definition at line 70 of file `offload_host.h`.

OffloadDescriptor:: OffloadDescriptor () [inline]

Definition at line 23 of file `offload_target.h`.

OffloadDescriptor::OffloadDescriptor () [inline], [private]

Definition at line 60 of file `offload_target.h`.

6.57.4 Member Function Documentation

bool OffloadDescriptor::alloc_ptr_data (PtrData & *ptr_data*, void *base*, int64_t *disp*, int64_t *length*, int64_t *alloc_disp*, int *align*) [private]

Definition at line 261 of file `offload_host.cpp`.

Referenced by `setup_descriptors()`.

void OffloadDescriptor::cleanup () [private]

Definition at line 2262 of file `offload_host.cpp`.

Referenced by `offload()`, and `wait_dependencies()`.

bool OffloadDescriptor::compute () [private]

Definition at line 2872 of file `offload_host.cpp`.

Referenced by `offload()`.

bool OffloadDescriptor::find_ptr_data (PtrData & *ptr_data*, void *base*, int64_t *disp*, int64_t *length*, bool *error_does_not_exist* = true) [private]

Definition at line 414 of file `offload_host.cpp`.

Referenced by `setup_descriptors()`.

bool OffloadDescriptor::gather_copyin_data () [private]

Definition at line 2726 of file `offload_host.cpp`.

Referenced by `offload()`.

void OffloadDescriptor::gather_copyout_data ()

Definition at line 545 of file `offload_target.cpp`.

Referenced by `OFFLOAD_TARGET_LEAVE()`.

bool OffloadDescriptor::gen_var_descs_for_pointer_array (int *i*) [private]

Definition at line 3490 of file `offload_host.cpp`.

Referenced by `setup_descriptors()`.

int OffloadDescriptor::get_offload_number () const [inline]

Definition at line 50 of file `offload_target.h`.

Referenced by `gather_copyout_data()`, `merge_var_descs()`, and `offload()`.

OffloadHostTimerData OffloadDescriptor::get_timer_data () const [inline]

Definition at line 95 of file `offload_host.h`.

Referenced by `alloc_ptr_data()`, `cleanup()`, `compute()`, `gather_copyin_data()`, `init_static_ptr_data()`, `offload()`, `offload_finish()`, `receive_pointer_data()`, `scatter_copyout_data()`, `send_pointer_data()`, `setup_descriptors()`, `setup_misc_data()`, and `wait_dependencies()`.

bool OffloadDescriptor::init_mic_address (PtrData ptr_data) [private]

Definition at line 514 of file `offload_host.cpp`.

Referenced by `offload_stack_memory_manager()`, and `setup_descriptors()`.

bool OffloadDescriptor::init_static_ptr_data (PtrData ptr_data) [private]

Definition at line 465 of file `offload_host.cpp`.

Referenced by `alloc_ptr_data()`, and `find_ptr_data()`.

bool OffloadDescriptor::is_signaled ()

Definition at line 2273 of file `offload_host.cpp`.

Referenced by `_Offload_signaled()`.

void OffloadDescriptor::merge_var_descs (VarDesc vars, VarDesc2 vars2, int vars_total)

Definition at line 254 of file `offload_target.cpp`.

Referenced by `OFFLOAD_TARGET_ENTER()`.

bool OffloadDescriptor::nullify_target_stack (COIBUFFER targ_buf, uint64_t size) [private]

Definition at line 532 of file `offload_host.cpp`.

Referenced by `offload_stack_memory_manager()`.

void OffloadDescriptor::offload (uint32_t buffer_count, void buffers, void misc_data, uint16_t misc_data_len, void return_data, uint16_t return_data_len) [static]

Definition at line 126 of file `offload_target.cpp`.

bool OffloadDescriptor::offload (const char name, bool is_empty, VarDesc vars, VarDesc2 vars2, int vars_total, const void waits, int num_waits, const void signal, int entry_id, const void stack_addr)

Definition at line 2077 of file `offload_host.cpp`.

Referenced by `offload_offload_wrap()`, and `server_compute()`.

bool OffloadDescriptor::offload_finish ()

Definition at line 2186 of file `offload_host.cpp`.

Referenced by `offload()`, and `wait_dependencies()`.

bool OffloadDescriptor::offload_stack_memory_manager (const void stack_begin, int routine_id, int buf_size, int align, bool is_new) [private]

Definition at line 559 of file `offload_host.cpp`.

Referenced by `setup_descriptors()`.

bool OffloadDescriptor::receive_pointer_data (bool *is_async*) [private]

Definition at line 3050 of file offload_host.cpp.

Referenced by offload().

bool OffloadDescriptor::recieve

Offload_result OffloadDescriptor::translate_coi_error (COIRERESULT res) const [private]

Definition at line 244 of file offload_host.cpp.

Referenced by alloc_ptr_data(), compute(), gather_copyin_data(), init_mic_address(), init_static_ptr_data(), nullify_target_stack(), offload_finish(), offload_stack_memory_manager(), receive_pointer_data(), recieve_noncontiguous_pointer_data(), scatter_copyout_data(), send_noncontiguous_pointer_data(), send_pointer_data(), and setup_misc_data().

bool OffloadDescriptor::wait_dependencies (const void waits, int num_waits) [private]

Definition at line 2049 of file offload_host.cpp.

Referenced by offload().

6.57.5 Member Data Documentation

BufferList OffloadDescriptor::m_buffers [private]

Definition at line 73 of file offload_target.h.

Referenced by offload(), and scatter_copyin_data().

BufferList OffloadDescriptor::m_compute_buffers [private]

Definition at line 226 of file offload_host.h.

Referenced by compute(), setup_descriptors(), and setup_misc_data().

BufferList OffloadDescriptor::m_destroy_buffers [private]

Definition at line 229 of file offload_host.h.

Referenced by offload_finish(), receive_pointer_data(), and setup_misc_data().

PtrDataList OffloadDescriptor::m_destroy_stack [private]

Definition at line 208 of file offload_host.h.

Referenced by gather_copyin_data(), offload_stack_memory_manager(), receive_pointer_data(), and setup_descriptors().

Engine& OffloadDescriptor::m_device [private]

Definition at line 211 of file offload_host.h.

Referenced by alloc_ptr_data(), cleanup(), compute(), find_ptr_data(), init_static_ptr_data(), offload(), offload_stack_memory_manager(), receive_pointer_data(), report_coi_error(), setup_descriptors(), setup_misc_data(), and wait_dependencies().

FunctionDescriptor OffloadDescriptor::m_func_desc [private]

Definition at line 240 of file offload_host.h.

Referenced by compute(), gather_copyin_data(), scatter_copyout_data(), setup_misc_data(), and OffloadDescriptor().

uint32_t OffloadDescriptor::m_func_desc.size [private]

Definition at line 241 of file offload_host.h.

Referenced by compute(), and setup_misc_data().

Marshaller OffloadDescriptor::m_in [private]

Definition at line 220 of file offload_host.h.

Referenced by gather_copyin_data(), offload(), and scatter_copyin_data().

uint64_t OffloadDescriptor::m_in.datalen [private]

Definition at line 256 of file offload_host.h.

Referenced by compute(), gather_copyin_data(), offload_stack_memory_manager(), setup_descriptors(), and setup_misc_data().

COIEVENT OffloadDescriptor::m_in.deps [private]

Definition at line 247 of file offload_host.h.

Referenced by compute(), gen_var_descs_for_pointer_array(), is_signaled(), offload_finish(), receive_pointer_data(), recieve_noncontiguous_pointer_data(), send_pointer_data(), setup_descriptors(), and OffloadDescriptor().

uint32_t OffloadDescriptor::m_in.deps.total [private]

Definition at line 248 of file offload_host.h.

Referenced by compute(), is_signaled(), offload_finish(), receive_pointer_data(), recieve_noncontiguous_pointer_data(), and send_pointer_data().

COIBUFFER OffloadDescriptor::m_inout.buf [private]

Definition at line 244 of file offload_host.h.

Referenced by gather_copyin_data(), scatter_copyout_data(), and setup_misc_data().

bool OffloadDescriptor::m_is_mandatory [private]

Definition at line 214 of file offload_host.h.

Referenced by alloc_ptr_data(), init_mic_address(), and offload_stack_memory_manager().

const bool OffloadDescriptor::m_is_omp [private]

Definition at line 217 of file offload_host.h.

Referenced by receive_pointer_data(), and setup_descriptors().

bool OffloadDescriptor::m_need_runfunction [private]

Definition at line 261 of file offload_host.h.

Referenced by compute(), gather_copyin_data(), offload(), scatter_copyout_data(), setup_descriptors(), and setup_misc_data().

int OffloadDescriptor::m_offload.number [private]

Definition at line 78 of file offload_target.h.

Referenced by get_offload_number(), and set_offload_number().

Marshaller OffloadDescriptor::m_out [private]

Definition at line 223 of file offload_host.h.

Referenced by gather_copyout_data(), offload(), and scatter_copyout_data().

uint64_t OffloadDescriptor::m_out.datalen [private]

Definition at line 257 of file offload_host.h.

Referenced by compute(), scatter_copyout_data(), setup_descriptors(), and setup_misc_data().

COIEVENT OffloadDescriptor::m_out.deps [private]

Definition at line 249 of file offload_host.h.

Referenced by gen_var_descs_for_pointer_array(), is_signaled(), offload_finish(), receive_pointer_data(), setup_descriptors(), and OffloadDescriptor().

uint32_t OffloadDescriptor::m_out_deps_total [private]

Definition at line 250 of file offload_host.h.

Referenced by `is_signaled()`, `offload_finish()`, and `receive_pointer_data()`.

PtrData OffloadDescriptor::m_stack_ptr_data [private]

Definition at line 207 of file offload_host.h.

Referenced by `offload_stack_memory_manager()`, and `setup_descriptors()`.

_Offload_status OffloadDescriptor::m_status [private]

Definition at line 237 of file offload_host.h.

Referenced by `alloc_ptr_data()`, `compute()`, `gather_copyin_data()`, `init_mic_address()`, `init_static_ptr_data()`, `nullify_target_stack()`, `offload()`, `offload_finish()`, `offload_stack_memory_manager()`, `receive_pointer_data()`, `recieve_noncontiguous_pointer_data()`, `scatter_copyout_data()`, `send_noncontiguous_pointer_data()`, `send_pointer_data()`, and `setup_misc_data()`.

OffloadHostTimerData OffloadDescriptor::m_timer_data [private]

Definition at line 253 of file offload_host.h.

Referenced by `get_timer_data()`.

VarDesc OffloadDescriptor::m_vars [private]

Definition at line 232 of file offload_host.h.

Referenced by `gather_copyin_data()`, `gather_copyout_data()`, `gen_var_descs_for_pointer_array()`, `merge_var_descs()`, `offload()`, `receive_pointer_data()`, `recieve_noncontiguous_pointer_data()`, `scatter_copyin_data()`, `scatter_copyout_data()`, `send_noncontiguous_pointer_data()`, `send_pointer_data()`, `setup_descriptors()`, and `OffloadDescriptor()`.

VarExtra OffloadDescriptor::m_vars_extra [private]

Definition at line 233 of file offload_host.h.

Referenced by `gather_copyin_data()`, `gen_var_descs_for_pointer_array()`, `receive_pointer_data()`, `recieve_noncontiguous_pointer_data()`, `scatter_copyout_data()`, `send_noncontiguous_pointer_data()`, `send_pointer_data()`, `setup_descriptors()`, and `OffloadDescriptor()`.

int OffloadDescriptor::m_vars_total [private]

Definition at line 234 of file offload_host.h.

Referenced by `gather_copyin_data()`, `gather_copyout_data()`, `gen_var_descs_for_pointer_array()`, `merge_var_descs()`, `offload()`, `receive_pointer_data()`, `scatter_copyin_data()`, `scatter_copyout_data()`, `send_pointer_data()`, `setup_descriptors()`, and `setup_misc_data()`.

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

- [offload_host.h](#)
- [offload_target.h](#)
- [offload_host.cpp](#)
- [offload_target.cpp](#)

6.58 mic_lib::omp_destroy_lock_target Interface Reference

Public Member Functions

- subroutine [omp_destroy_lock_target](#) (target_type, target_number, lock)

6.58.1 Detailed Description

Definition at line 175 of file mic_lib.f90.

6.58.2 Constructor & Destructor Documentation

subroutine mic_lib::omp_destroy_lock_target::omp_destroy_lock_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*, integer (kind=c_intptr_t) *lock*)

Definition at line 175 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.59 mic_lib::omp_destroy_nest_lock_target Interface Reference

Public Member Functions

- subroutine [omp_destroy_nest_lock_target](#) (*target_type*, *target_number*, *lock*)

6.59.1 Detailed Description

Definition at line 226 of file mic_lib.f90.

6.59.2 Constructor & Destructor Documentation

subroutine mic_lib::omp_destroy_nest_lock_target::omp_destroy_nest_lock_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*, integer (kind=c_intptr_t) *lock*)

Definition at line 226 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.60 mic_lib::omp_get_dynamic_target Interface Reference

Public Member Functions

- integer(kind=c_int) function [omp_get_dynamic_target](#) (*target_type*, *target_number*)

6.60.1 Detailed Description

Definition at line 120 of file mic_lib.f90.

6.60.2 Constructor & Destructor Documentation

integer (kind=c_int) function mic_lib::omp_get_dynamic_target::omp_get_dynamic_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*)

Definition at line 120 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.61 mic_lib::omp_get_max_threads_target Interface Reference

Public Member Functions

- integer(kind=c_int) function [omp_get_max_threads_target](#) (*target_type*, *target_number*)

6.61.1 Detailed Description

Definition at line 96 of file mic_lib.f90.

6.61.2 Constructor & Destructor Documentation

integer (kind=c_int) function mic_lib::omp_get_max_threads_target::omp_get_max_threads_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*)

Definition at line 96 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.62 mic_lib::omp_get_nested_target Interface Reference

Public Member Functions

- integer(kind=c_int) function [omp_get_nested_target](#) (target_type, target_number)

6.62.1 Detailed Description

Definition at line 136 of file mic_lib.f90.

6.62.2 Constructor & Destructor Documentation

integer (kind=c_int) function mic_lib::omp_get_nested_target::omp_get_nested_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*)

Definition at line 136 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.63 mic_lib::omp_get_num_procs_target Interface Reference

Public Member Functions

- integer(kind=c_int) function [omp_get_num_procs_target](#) (target_type, target_number)

6.63.1 Detailed Description

Definition at line 104 of file mic_lib.f90.

6.63.2 Constructor & Destructor Documentation

integer (kind=c_int) function mic_lib::omp_get_num_procs_target::omp_get_num_procs_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*)

Definition at line 104 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.64 mic_lib::omp_get_schedule_target Interface Reference

Public Member Functions

- subroutine [omp_get_schedule_target](#) (target_type, target_number, kind, modifier)

6.64.1 Detailed Description

Definition at line 153 of file mic_lib.f90.

6.64.2 Constructor & Destructor Documentation

subroutine mic.lib::omp_get_schedule_target::omp_get_schedule_target (integer (kind=c.int) *target_type*, integer (kind=c.int) *target_number*, integer (kind=c.intptr_t) *kind*, integer (kind=c.intptr_t) *modifier*)

Definition at line 153 of file mic.lib.f90.

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

- [mic.lib.f90](#)

6.65 mic.lib::omp_init_lock_target Interface Reference

Public Member Functions

- subroutine [omp_init_lock_target](#) (target_type, target_number, lock)

6.65.1 Detailed Description

Definition at line 165 of file mic.lib.f90.

6.65.2 Constructor & Destructor Documentation

subroutine mic.lib::omp_init_lock_target::omp_init_lock_target (integer (kind=c.int) *target_type*, integer (kind=c.int) *target_number*, integer (kind=c.intptr_t) *lock*)

Definition at line 165 of file mic.lib.f90.

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

- [mic.lib.f90](#)

6.66 mic.lib::omp_init_nest_lock_target Interface Reference

Public Member Functions

- subroutine [omp_init_nest_lock_target](#) (target_type, target_number, lock)

6.66.1 Detailed Description

Definition at line 217 of file mic.lib.f90.

6.66.2 Constructor & Destructor Documentation

subroutine mic.lib::omp_init_nest_lock_target::omp_init_nest_lock_target (integer (kind=c.int) *target_type*, integer (kind=c.int) *target_number*, integer (kind=c.intptr_t) *lock*)

Definition at line 217 of file mic.lib.f90.

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

- [mic.lib.f90](#)

6.67 omp_lock_target_t Struct Reference

```
#include <offload.h>
```

Public Attributes

- [omp_lock_t lock](#)

6.67.1 Detailed Description

Definition at line 197 of file offload.h.

6.67.2 Member Data Documentation

`omp_lock_t omp_lock_target_t::lock`

Definition at line 198 of file offload.h.

Referenced by `omp_destroy_lock_lrb()`, `omp_init_lock_lrb()`, `omp_set_lock_lrb()`, `omp_test_lock_lrb()`, and `omp_unset_lock_lrb()`.

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

- [offload.h](#)

6.68 omp_nest_lock_target_t Struct Reference

```
#include <offload.h>
```

Public Attributes

- `omp_nest_lock_t lock`

6.68.1 Detailed Description

Definition at line 233 of file offload.h.

6.68.2 Member Data Documentation

`omp_nest_lock_t omp_nest_lock_target_t::lock`

Definition at line 234 of file offload.h.

Referenced by `omp_destroy_nest_lock_lrb()`, `omp_init_nest_lock_lrb()`, `omp_set_nest_lock_lrb()`, `omp_test_nest_lock_lrb()`, and `omp_unset_nest_lock_lrb()`.

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

- [offload.h](#)

6.69 mic_lib::omp_set_dynamic_target Interface Reference

Public Member Functions

- subroutine [omp_set_dynamic_target](#) (target_type, target_number, num_threads)

6.69.1 Detailed Description

Definition at line 112 of file mic_lib.f90.

6.69.2 Constructor & Destructor Documentation

subroutine `mic_lib::omp_set_dynamic_target::omp_set_dynamic_target (integer (kind=c_int) target_type, integer (kind=c_int) target_number, integer (kind=c_int) num_threads)`

Definition at line 112 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.70 mic_lib::omp_set_lock_target Interface Reference

Public Member Functions

- subroutine [omp_set_lock_target](#) (target_type, target_number, lock)

6.70.1 Detailed Description

Definition at line 185 of file mic_lib.f90.

6.70.2 Constructor & Destructor Documentation

subroutine mic_lib::omp_set_lock_target::omp_set_lock_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*, integer (kind=c_intptr_t) *lock*)

Definition at line 185 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.71 mic_lib::omp_set_nest_lock_target Interface Reference

Public Member Functions

- subroutine [omp_set_nest_lock_target](#) (target_type, target_number, lock)

6.71.1 Detailed Description

Definition at line 235 of file mic_lib.f90.

6.71.2 Constructor & Destructor Documentation

subroutine mic_lib::omp_set_nest_lock_target::omp_set_nest_lock_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*, integer (kind=c_intptr_t) *lock*)

Definition at line 235 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.72 mic_lib::omp_set_nested_target Interface Reference

Public Member Functions

- subroutine [omp_set_nested_target](#) (target_type, target_number, nested)

6.72.1 Detailed Description

Definition at line 128 of file mic_lib.f90.

6.72.2 Constructor & Destructor Documentation

subroutine mic_lib::omp_set_nested_target::omp_set_nested_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*, integer (kind=c_int) *nested*)

Definition at line 128 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.73 mic_lib::omp_set_num_threads_target Interface Reference

Public Member Functions

- subroutine [omp_set_num_threads_target](#) (target_type, target_number, num_threads)

6.73.1 Detailed Description

Definition at line 88 of file mic_lib.f90.

6.73.2 Constructor & Destructor Documentation

subroutine mic_lib::omp_set_num_threads_target::omp_set_num_threads_target (integer (kind=c_int)
target_type, integer (kind=c_int) *target_number*, integer (kind=c

int)

6.76 mic_lib::omp_test_nest_lock_target Interface Reference

Public Member Functions

- integer(kind=c_int) function [omp_test_nest_lock_target](#) (target_type, target_number, lock)

6.76.1 Detailed Description

Definition at line 253 of file mic_lib.f90.

6.76.2 Constructor & Destructor Documentation

integer (kind=c_int) function mic_lib::omp_test_nest_lock_target::omp_test_nest_lock_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*, integer (kind=c_intptr_t) *lock*)

Definition at line 253 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.77 mic_lib::omp_unset_lock_target Interface Reference

Public Member Functions

- subroutine [omp_unset_lock_target](#) (target_type, target_number, lock)

6.77.1 Detailed Description

Definition at line 195 of file mic_lib.f90.

6.77.2 Constructor & Destructor Documentation

subroutine mic_lib::omp_unset_lock_target::omp_unset_lock_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*, integer (kind=c_intptr_t) *lock*)

Definition at line 195 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.78 mic_lib::omp_unset_nest_lock_target Interface Reference

Public Member Functions

- subroutine [omp_unset_nest_lock_target](#) (target_type, target_number, lock)

6.78.1 Detailed Description

Definition at line 244 of file mic_lib.f90.

6.78.2 Constructor & Destructor Documentation

subroutine mic_lib::omp_unset_nest_lock_target::omp_unset_nest_lock_target (integer (kind=c_int) *target_type*, integer (kind=c_int) *target_number*, integer (kind=c_intptr_t) *lock*)

Definition at line 244 of file mic_lib.f90.

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

- [mic_lib.f90](#)

6.79 ORSLBusySet Struct Reference

```
#include <orl-lite/include/orl-lite.h>
```

Public Attributes

- [BusySetType](#) type

6.79.1 Detailed Description

[ORSLBusySet](#) encapsulation

Definition at line 32 of file orl-lite.h.

6.79.2 Member Data Documentation

[BusySetType](#) [ORSLBusySet::type](#)

Set type

Definition at line 33 of file orl-lite.h.

Referenced by [ORSL::release\(\)](#), [ORSL::reserve\(\)](#), and [ORSL::try_reserve\(\)](#).

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

- orl-lite/include/[orl-lite.h](#)

6.80 PersistData Struct Reference

```
#include <offload_engine.h>
```

Public Member Functions

- [PersistData](#) (const void [addr](#), uint64_t [routine_num](#), uint64_t [size](#))

Public Attributes

- const void [stack_cpu_addr](#)
- uint64_t [routine_id](#)
- [PtrData](#) [stack_ptr_data](#)
- char [cpu_stack_addr](#)

6.80.1 Detailed Description

Definition at line 210 of file offload_engine.h.

6.80.2 Constructor & Destructor Documentation

[PersistData::PersistData](#) (const void [addr](#), uint64_t [routine_num](#), uint64_t [size](#)) [\[inline\]](#)

Definition at line 212 of file offload_engine.h.

6.80.3 Member Data Documentation

char [PersistData::cpu_stack_addr](#)

Definition at line 224 of file offload_engine.h.

uint64_t [PersistData::routine_id](#)

Definition at line 220 of file offload_engine.h.

const void PersistData::stack_cpu_addr

Definition at line 218 of file offload_engine.h.

PtrData PersistData::stack_ptr_data

Definition at line 222 of file offload_engine.h.

Referenced by OffloadDescriptor::offload_stack_memory_manager(), and PersistData().

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

- [offload_engine.h](#)

6.81 PtrData Class Reference

```
#include <offload_engine.h>
```

Public Member Functions

- [PtrData](#) (const void addr, uint64_t len)
- [PtrData](#) (const [PtrData](#) &ptr)
- bool [operator<](#) (const [PtrData](#) &o) const
- long [add_reference](#) ()
- long [remove_reference](#) ()
- long [get_reference](#) () const

Public Attributes

- const [MemRange](#) [cpu_addr](#)
- COIBUFFER [cpu_buf](#)
- COIBUFFER [mic_buf](#)
- uint64_t [mic_addr](#)
- uint64_t [alloc_disp](#)
- uint32_t [mic_offset](#)
- bool [is_static](#)
- [mutex_t](#) [alloc_ptr_data_lock](#)

Private Attributes

- long [ref_count](#)

6.81.1 Detailed Description

Definition at line 58 of file offload_engine.h.

6.81.2 Constructor & Destructor Documentation

PtrData::PtrData (const void addr, uint64_t len) [inline]

Definition at line 60 of file offload_engine.h.

PtrData::PtrData (const PtrData & ptr) [inline]

Definition at line 69 of file offload_engine.h.

6.81.3 Member Function Documentation

long PtrData::add_reference () [inline]

Definition at line 83 of file offload_engine.h.

Referenced by OffloadDescriptor::setup_descriptors().

long PtrData::get_reference () const [inline]

Definition at line 105 of file offload_engine.h.

Referenced by OffloadDescriptor::setup_descriptors().

bool PtrData::operator< (const PtrData & o) const [inline]

Definition at line 76 of file offload_engine.h.

long PtrData::remove_reference () [inline]

Definition at line 94 of file offload_engine.h.

Referenced by OffloadDescriptor::receive_pointer_data().

6.81.4 Member Data Documentation

uint64_t PtrData::alloc_disp

Definition at line 123 of file offload_engine.h.

Referenced by OffloadDescriptor::alloc_ptr_data(), OffloadDescriptor::gather_copyin_data(), OffloadDescriptor::receive_pointer_data(), OffloadDescriptor::recieve_noncontiguous_pointer_data(), OffloadDescriptor::send_noncontiguous_pointer_data(), OffloadDescriptor::send_pointer_data(), and OffloadDescriptor::setup_descriptors().

mutex_t PtrData::alloc_ptr_data_lock

Definition at line 131 of file offload_engine.h.

Referenced by OffloadDescriptor::alloc_ptr_data(), and Engine::insert_ptr_data().

const MemRange PtrData::cpu_addr

Definition at line 114 of file offload_engine.h.

Referenced by OffloadDescriptor::alloc_ptr_data(), OffloadDescriptor::find_ptr_data(), OffloadDescriptor::init_static_ptr_data(), operator<(), OffloadDescriptor::receive_pointer_data(), and OffloadDescriptor::setup_descriptors().

COIBUFFER PtrData::cpu_buf

Definition at line 117 of file offload_engine.h.

Referenced by OffloadDescriptor::alloc_ptr_data(), OffloadDescriptor::init_static_ptr_data(), OffloadDescriptor::receive_pointer_data(), OffloadDescriptor::send_noncontiguous_pointer_data(), and OffloadDescriptor::send_pointer_data().

bool PtrData::is_static

Definition at line 130 of file offload_engine.h.

Referenced by add_reference(), OffloadDescriptor::alloc_ptr_data(), OffloadDescriptor::find_ptr_data(), get_reference(), Engine::init_ptr_data(), remove_reference(), and OffloadDescriptor::setup_descriptors().

uint64_t PtrData::mic_addr

Definition at line 121 of file offload_engine.h.

Referenced by OffloadDescriptor::gather_copyin_data(), OffloadDescriptor::init_mic_address(), Engine::init_ptr_data(), OffloadDescriptor::init_static_ptr_data(), OffloadDescriptor::offload_stack_memory_manager(), OffloadDescriptor::receive_pointer_data(), and OffloadDescriptor::setup_descriptors().

COIBUFFER PtrData::mic_buf

Definition at line 118 of file offload_engine.h.

Referenced by OffloadDescriptor::alloc_ptr_data(), OffloadDescriptor::init_mic_

6.82.3 Member Function Documentation

template<typename T> bool OffloadDescriptor::ReadArrElements< T >::read_next (bool flag)
[inline]

Definition at line 167 of file offload_host.h.

Referenced by OffloadDescriptor::gen_var_descs_for_pointer_array().

6.82.4 Member Data Documentation

template<typename T> char OffloadDescriptor::ReadArrElements< T >::base

Definition at line 203 of file offload_host.h.

Referenced by OffloadDescriptor::gen_var_descs_for_pointer_array(), and OffloadDescriptor::ReadArrElements< T >::read_next().

template<typename T> int OffloadDescriptor::ReadArrElements< T >::count

Definition at line 202 of file offload_host.h.

Referenced by OffloadDescriptor::ReadArrElements< T >::read_next().

template<typename T> int OffloadDescriptor::ReadArrElements< T >::el_size

Definition at line 197 of file offload_host.h.

Referenced by OffloadDescriptor::gen_var_descs_for_pointer_array(), and OffloadDescriptor::ReadArrElements< T >::read_next().

template<typename T> bool OffloadDescriptor::ReadArrElements< T >::is_empty

Definition at line 201 of file offload_host.h.

Referenced by OffloadDescriptor::ReadArrElements< T >::read_next().

template<typename T> int64_t OffloadDescriptor::ReadArrElements< T >::length_cur

Definition at line 198 of file offload_host.h.

Referenced by OffloadDescriptor::ReadArrElements< T >::read_next().

template<typename T> int64_t OffloadDescriptor::ReadArrElements< T >::offset

Definition at line 198 of file offload_host.h.

Referenced by OffloadDescriptor::gen_var_descs_for_pointer_array(), and OffloadDescriptor::ReadArrElements< T >::read_next().

template<typename T> CeanReadRanges OffloadDescriptor::ReadArrElements< T >::ranges

Definition at line 195 of file offload_host.h.

Referenced by OffloadDescriptor::gen_var_descs_for_pointer_array(), and OffloadDescriptor::ReadArrElements< T >::read_next().

template<typename T> int64_t OffloadDescriptor::ReadArrElements< T >::size

Definition at line 198 of file offload_host.h.

Referenced by OffloadDescriptor::gen_var_descs_for_pointer_array(), and OffloadDescriptor::ReadArrElements< T >::read_next().

template<typename T> T OffloadDescriptor::ReadArrElements< T >::val

Definition at line 196 of file `offload_host.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::ReadArrElements< T >::read_next()`.

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

- [offload_host.h](#)

6.83 RefInfo Struct Reference

`#include <offload_target.h>`

Public Member Functions

- [RefInfo](#) (bool *is_add*, long *amount*)

Public Attributes

- bool [is_added](#)
- long [count](#)

6.83.1 Detailed Description

Definition at line 93 of file `offload_target.h`.

6.83.2 Constructor & Destructor Documentation

`RefInfo::RefInfo (bool is_add, long amount) [inline]`

Definition at line 94 of file `offload_target.h`.

6.83.3 Member Data Documentation

`long RefInfo::count`

Definition at line 97 of file `offload_target.h`.

`bool RefInfo::is_added`

Definition at line 96 of file `offload_target.h`.

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

- [offload_target.h](#)

6.84 TableList< T > Class Template Reference

`#include <offload_table.h>`

Classes

- struct [Node](#)

Public Types

- typedef T [Table](#)

Public Member Functions

- [TableList](#) ([Node](#) node=0)
- void [add_table](#) ([Node](#) node)
- void [remove_table](#) ([Node](#) node)

Protected Attributes

- [Node](#) m_head
- [mutex_t](#) m_lock

6.84.1 Detailed Description

template<typename T>class TableList< T >

Definition at line 22 of file offload_table.h.

6.84.2 Member Typedef Documentation

template<typename T> typedef T TableList< T >::Table

Definition at line 25 of file offload_table.h.

6.84.3 Constructor & Destructor Documentation

template<typename T> TableList< T >::TableList ([Node](#) node = 0) [inline], [explicit]

Definition at line 35 of file offload_table.h.

6.84.4 Member Function Documentation

template<typename T> void TableList< T >::add_table ([Node](#) node) [inline]

Definition at line 37 of file offload_table.h.

Referenced by `__offload_register_tables()`, and `FuncList::add_table()`.

template<typename T> void TableList< T >::remove_table ([Node](#) node) [inline]

Definition at line 49 of file offload_table.h.

Referenced by `__offload_unregister_tables()`.

6.84.5 Member Data Documentation

template<typename T> [Node](#) TableList< T >::m_head [protected]

Definition at line 66 of file offload_table.h.

Referenced by `TableList< VarTable >::add_table()`, and `TableList< VarTable >::remove_table()`.

template<typename T> [mutex_t](#) TableList< T >::m_lock [protected]

Definition at line 67 of file offload_table.h.

Referenced by `TableList< VarTable >::add_table()`, and `TableList< VarTable >::remove_table()`.

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

- [offload_table.h](#)

6.85 TargetImage Struct Reference

```
#include <offload_engine.h>
```

Public Member Functions

- [TargetImage](#) (const char _name, const void _data, uint64_t _size, const char _origin, uint64

6.86 Thread Struct Reference

Public Member Functions

- [Thread](#) (long addr_coipipe_counter)

COIPIPELINE Thread::m_pipelines[MIC_ENGINES_MAX] [private]

Definition at line 482 of file `offload_engine.cpp`.

Referenced by `get_pipeline()`, `set_pipeline()`, `Thread()`, and `Thread()`.

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

- [offload_engine.cpp](#)

6.87 VarDesc Struct Reference

An Offload Variable descriptor.

```
#include <offload_common.h>
```

Public Attributes

- union *f*
 - struct *f*
 - uint8_t *dst*: 4
OffloadItemType of destination.
 - uint8_t *src*: 4
OffloadItemType of source.
 - g*
 - uint8_t *bits*
g type

OffloadItemTypes of source and destination.
- union *f*
 - struct *f*
 - uint8_t *in*: 1
Set if IN or INOUT.
 - uint8_t *out*: 1
Set if OUT or INOUT.
 - g*
 - uint8_t *bits*
g direction

OffloadParameterType that describes direction of data transfer.
- uint8_t *alloc_if*
alloc_if modifier value
- uint8_t *free_if*
free_if modifier value
- uint32_t *align*
- uint32_t *mic_offset*
Not used by compiler; set to 0.
- union *f*
 - struct *f*
 - uint32_t *is_static*: 1
source variable has persistent storage
 - uint32_t *is_static_dstn*: 1
destination variable has persistent storage
 - uint32_t *has_length*: 1
has length for c_dv && c_dv_ptr
 - uint32_t *is_stack_buf*: 1
persisted local scalar is in stack buffer
 - uint32_t *sink_addr*: 1
buffer address is sent in data
 - uint32_t *alloc_disp*: 1

```

    alloc displacement is sent in data
uint32_t is_noncont_src: 1
    source data is noncontiguous
uint32_t is_noncont_dst: 1
    destination data is noncontiguous
g
uint32_t bits
g flags

    Flags describing this variable.
• int64_t offset
    Not used by compiler; set to 0.
• int64_t size
    Element byte-size of data to be transferred.
• union f
    int64_t count
    Set to 0 for array expressions and dope-vectors.
    int64_t disp
    Displacement not used by compiler.
g;

• union f
    void alloc
    int64_t ptr_arr_offset
g;

    This field not used by OpenMP 4.0.
• void into
    This field not used by OpenMP 4.0.
• void ptr
    For an ordinary variable, address of the variable.

```

6.87.1 Detailed Description

An Offload Variable descriptor.

Definition at line 176 of file offload_common.h.

6.87.2 Member Data Documentation

union f ... g

union f ... g

This field not used by OpenMP 4.0.

The alloc section expression in #pragma offload

uint32_t VarDesc::align

MIC alignment requested for pointer data

Definition at line 197 of file offload_common.h.

Referenced by OffloadDescriptor::gen_var_descs_for_pointer_array(), OffloadDescriptor::merge_var_descs(), and OffloadDescriptor::setup_descriptors().

void VarDesc::alloc

Definition at line 241 of file offload_common.h.

Referenced by OffloadDescriptor::gen_var_descs_for_pointer_array(), and OffloadDescriptor::setup_descriptors().

uint32_t VarDesc::alloc_disp

alloc displacement is sent in data

Definition at line 215 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gather_copyin_data()`, `OffloadDescriptor::scatter_copyin_data()`, and `OffloadDescriptor::setup_descriptors()`.

uint8_t VarDesc::alloc_if

alloc_if modifier value

Definition at line 195 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gather_copyin_data()`, `OffloadDescriptor::gen_var_descs_for_pointer_array()`, `kmp_set_defaults_target()`, `OffloadDescriptor::merge_var_descs()`, `OffloadDescriptor::scatter_copyin_data()`, and `OffloadDescriptor::setup_descriptors()`.

uint8_t VarDesc::bits

Definition at line 183 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gather_copyin_data()`, `OffloadDescriptor::gen_var_descs_for_pointer_array()`, `kmp_create_affinity_mask_lrb()`, `kmp_create_affinity_mask_target()`, `kmp_destroy_affinity_mask_lrb()`, `kmp_destroy_affinity_mask_target()`, `kmp_get_affinity_lrb()`, `kmp_get_affinity_mask_proc_lrb()`, `kmp_get_affinity_mask_proc_target()`, `kmp_get_affinity_target()`, `kmp_set_affinity_lrb()`, `kmp_set_affinity_mask_proc_lrb()`, `kmp_set_affinity_mask_proc_target()`, `kmp_set_affinity_target()`, `kmp_set_defaults_lrb()`, `kmp_set_defaults_target()`, `kmp_unset_affinity_mask_proc_lrb()`, `kmp_unset_affinity_mask_proc_target()`, `OffloadDescriptor::merge_var_descs()`, `omp_destroy_lock_lrb()`, `omp_destroy_lock_target()`, `omp_destroy_nest_lock_lrb()`, `omp_destroy_nest_lock_target()`, `omp_get_int_from_host()`, `omp_get_int_target()`, `omp_get_schedule_lrb()`, `omp_get_schedule_target()`, `omp_init_lock_lrb()`, `omp_init_lock_target()`, `omp_init_nest_lock_lrb()`, `omp_init_nest_lock_target()`, `omp_send_int_to_host()`, `omp_set_int_target()`, `omp_set_lock_lrb()`, `omp_set_lock_target()`, `omp_set_nest_lock_lrb()`, `omp_set_nest_lock_target()`, `omp_set_schedule_lrb()`, `omp_set_schedule_target()`, `omp_test_lock_lrb()`, `omp_test_lock_target()`, `omp_test_nest_lock_lrb()`, `omp_test_nest_lock_target()`, `omp_unset_lock_lrb()`, `omp_unset_lock_target()`, `omp_unset_nest_lock_lrb()`, `omp_unset_nest_lock_target()`, `OffloadDescriptor::scatter_copyin_data()`, and `OffloadDescriptor::setup_descriptors()`.

uint32_t VarDesc::bits

Definition at line 221 of file `offload_common.h`.

int64_t VarDesc::count

Set to 0 for array expressions and dope-vectors.

Set to 1 for scalars

Set to value of length modifier for pointers

Definition at line 233 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, `kmp_create_affinity_mask_target()`, `kmp_destroy_affinity_mask_target()`, `kmp_get_affinity_mask_proc_target()`, `kmp_get_affinity_target()`, `kmp_set_affinity_mask_proc_target()`, `kmp_set_affinity_target()`, `kmp_unset_affinity_mask_proc_target()`, `OffloadDescriptor::merge_var_descs()`, `omp_destroy_lock_target()`, `omp_destroy_nest_lock_target()`, `omp_get_int_target()`, `omp_get_schedule_target()`, `omp_init_lock_target()`, `omp_init_nest_lock_target()`, `omp_set_int_target()`, `omp_set_lock_target()`, `omp_set_nest_lock_target()`, `omp_set_schedule_target()`, `omp_test_lock_target()`, `omp_test_nest_lock_target()`, `omp_unset_lock_target()`, `omp_unset_nest_lock_target()`, `OffloadDescriptor::scatter_copyin_data()`, and `OffloadDescriptor::setup_descriptors()`.

union f... g VarDesc::direction

OffloadParameterType that describes direction of data transfer.

Referenced by `OffloadDescriptor::gather_copyin_data()`, `OffloadDescriptor::gather_copyout_data()`, `OffloadDescriptor::gen_var_descs_for_pointer_array()`, `kmp_create_affinity_mask_lrb()`, `kmp_create_affinity_mask_target()`,

kmp_destroy_affinity_mask_lrb(), kmp_destroy_affinity_mask_target(), kmp_get_affinity_lrb(), kmp_get_affinity_mask_proc_lrb(), kmp_get_affinity_mask_proc_target(), kmp_get_affinity_target(), kmp_set_affinity_lrb(), kmp_set_affinity_mask_proc_lrb(), kmp_set_affinity_mask_proc_target(), kmp_set_affinity_target(), kmp_set_defaults_lrb(), kmp_set_defaults_target(), kmp_unset_affinity_mask_proc_lrb(), kmp_unset_affinity_mask_proc_target(), OffloadDescriptor::merge_var_descs(), omp_destroy_lock_lrb(), omp_destroy_lock_target(), omp_destroy_nest_lock_lrb(), omp_destroy_nest_lock_target(), omp_get_int_from_host(), omp_get_int_target(), omp_get_schedule_lrb(), omp_get_schedule_target(), omp_init_lock_lrb(), omp_init_lock_target(), omp_init_nest_lock_lrb(), omp_init_nest_lock_target(), omp_send_int_to_host(), omp_set_int_target(), omp_set_lock_lrb(), omp_set_lock_target(), omp_set_nest_lock_lrb(), omp_set_nest_lock_target(), omp_set_schedule_lrb(), omp_set_schedule_target(), omp_test_lock_lrb(), omp_test_lock_target(), omp_test_nest_lock_lrb(), omp_test_nest_lock_target(), omp_unset_lock_lrb(), omp_unset_lock_target(), omp_unset_nest_lock_lrb(), omp_unset_nest_lock_target(), OffloadDescriptor::scatter_copyin_data(), and OffloadDescriptor::setup_descriptors().

int64_t VarDesc::disp

Displacement not used by compiler.

Definition at line 235 of file offload_common.h.

Referenced by OffloadDescriptor::gather_copyin_data(), OffloadDescriptor::receive_pointer_data(), OffloadDescriptor::send_noncontiguous_pointer_data(), OffloadDescriptor::send_pointer_data(), and OffloadDescriptor::setup_descriptors().

uint8_t VarDesc::dst

OffloadItemType of destination.

Definition at line 180 of file offload_common.h.

Referenced by OffloadDescriptor::gather_copyin_data(), OffloadDescriptor::gather_copyout_data(), OffloadDescriptor::gen_var_descs_for_pointer_array(), kmp_create_affinity_mask_lrb(), kmp_create_affinity_mask_target(), kmp_destroy_affinity_mask_lrb(), kmp_destroy_affinity_mask_target(), kmp_get_affinity_lrb(), kmp_get_affinity_mask_proc_lrb(), kmp_get_affinity_mask_proc_target(), kmp_get_affinity_target(), kmp_set_affinity_lrb(), kmp_set_affinity_mask_proc_lrb(), kmp_set_affinity_mask_proc_target(), kmp_set_affinity_target(), kmp_set_defaults_lrb(), kmp_set_defaults_target(), kmp_unset_affinity_mask_proc_lrb(), kmp_unset_affinity_mask_proc_target(), OffloadDescriptor::merge_var_descs(), omp_destroy_lock_lrb(), omp_destroy_lock_target(), omp_destroy_nest_lock_lrb(), omp_destroy_nest_lock_target(), omp_get_int_from_host(), omp_get_int_target(), omp_get_schedule_lrb(), omp_get_schedule_target(), omp_init_lock_lrb(), omp_init_lock_target(), omp_init_nest_lock_lrb(), omp_init_nest_lock_target(), omp_send_int_to_host(), omp_set_int_target(), omp_set_lock_lrb(), omp_set_lock_target(), omp_set_nest_lock_lrb(), omp_set_nest_lock_target(), omp_set_schedule_lrb(), omp_set_schedule_target(), omp_test_lock_lrb(), omp_test_lock_target(), omp_test_nest_lock_lrb(), omp_test_nest_lock_target(), omp_unset_lock_lrb(), omp_unset_lock_target(), omp_unset_nest_lock_lrb(), omp_unset_nest_lock_target(), OffloadDescriptor::receive_pointer_data(), OffloadDescriptor::scatter_copyin_data(), OffloadDescriptor::scatter_copyout_data(), OffloadDescriptor::send_pointer_data(), and OffloadDescriptor::setup_descriptors().

union f... g VarDesc::flags

Flags describing this variable.

Referenced by OffloadDescriptor::gather_copyin_data(), OffloadDescriptor::gather_copyout_data(), OffloadDescriptor::gen_var_descs_for_pointer_array(), OffloadDescriptor::merge_var_descs(), OffloadDescriptor::receive_pointer_data(), OffloadDescriptor::scatter_copyin_data(), OffloadDescriptor::scatter_copyout_data(), OffloadDescriptor::send_pointer_data(), and OffloadDescriptor::setup_descriptors().

uint8_t VarDesc::free_if

free_if modifier value

Definition at line 196 of file offload_common.h.

Referenced by OffloadDescriptor::gather_copyin_data(), OffloadDescriptor::gather_copyout_data(), OffloadDescriptor::gen_var_descs_for_pointer_array(), kmp_set_defaults_target(), OffloadDescriptor::merge_var_descs(), OffloadDescriptor::scatter_copyin_data(), and OffloadDescriptor::setup_descriptors().

uint32_t VarDesc::has_length

has length for c_dv && c_dv_ptr

Definition at line 209 of file offload_common.h.

Referenced by OffloadDescriptor::setup_descriptors().

uint8_t VarDesc::in

Set if IN or INOUT.

Definition at line 189 of file offload_common.h.

Referenced by OffloadDescriptor::gather_copyin_data(), OffloadDescriptor::gather_copyout_data(), OffloadDescriptor::scatter_copyin_data(), OffloadDescriptor::send_pointer_data(), and OffloadDescriptor::setup_descriptors().

void VarDesc::into

This field not used by OpenMP 4.0.

The into section expression in #pragma offload

For c_data_ptr_array this is the into ptr array

Definition at line 248 of file offload_

uint32_t VarDesc::is_static_dstn

destination variable has persistent storage

Definition at line 207 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gather_copyin_data()`, `OffloadDescriptor::gather_copyout_data()`, `OffloadDescriptor::receive_pointer_data()`, `OffloadDescriptor::scatter_copyin_data()`, `OffloadDescriptor::send_pointer_data()`, and `OffloadDescriptor::setup_descriptors()`.

uint32_t VarDesc::mic_offset

Not used by compiler; set to 0.

Used by runtime as offset to data from start of MIC buffer

Definition at line 200 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, `OffloadDescriptor::merge_var_descs()`, `OffloadDescriptor::receive_pointer_data()`, `OffloadDescriptor::recieve_noncontiguous_pointer_data()`, `OffloadDescriptor::send_noncontiguous_pointer_data()`, `OffloadDescriptor::send_pointer_data()`, and `OffloadDescriptor::setup_descriptors()`.

int64_t VarDesc::offset

Not used by compiler; set to 0.

Used by runtime as offset to base from data stored in a buffer

Definition at line 225 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gather_copyout_data()`, `OffloadDescriptor::gen_var_descs_for_pointer_array()`, `OffloadDescriptor::merge_var_descs()`, `OffloadDescriptor::receive_pointer_data()`, `OffloadDescriptor::recieve_noncontiguous_pointer_data()`, `OffloadDescriptor::scatter_copyin_data()`, `OffloadDescriptor::send_noncontiguous_pointer_data()`, `OffloadDescriptor::send_pointer_data()`, and `OffloadDescriptor::setup_descriptors()`.

uint8_t VarDesc::out

Set if OUT or INOUT.

Definition at line 190 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gather_copyin_data()`, `OffloadDescriptor::gather_copyout_data()`, `OffloadDescriptor::gen_var_descs_for_pointer_array()`, `OffloadDescriptor::receive_pointer_data()`, `OffloadDescriptor::scatter_copyin_data()`, `OffloadDescriptor::scatter_copyout_data()`, and `OffloadDescriptor::setup_descriptors()`.

void VarDesc::ptr

For an ordinary variable, address of the variable.

For `c.cean_var` (C/C++ array expression), pointer to [arr_desc](#), which is an array descriptor.

For `c.data_ptr_array` (array of data pointers), pointer to `ptr_array_descriptor`, which is a descriptor for pointer array transfers.

Definition at line 256 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gather_copyin_data()`, `OffloadDescriptor::gather_copyout_data()`, `OffloadDescriptor::gen_var_`

int64_t VarDesc::ptr_arr_offset

Definition at line 242 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, `OffloadDescriptor::scatter_copyin_data()`, and `OffloadDescriptor::send_pointer_data()`.

uint32_t VarDesc::sink_addr

buffer address is sent in data

Definition at line 213 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gather_copyin_data()`, `OffloadDescriptor::scatter_copyin_data()`, and `OffloadDescriptor::setup_descriptors()`.

int64_t VarDesc::size

Element byte-size of data to be transferred.

For dope-vector, the size of the dope-vector

Definition at line 228 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gather_copyin_data()`, `OffloadDescriptor::gen_var_descs_for_pointer_array()`, `kmp_create_affinity_mask_target()`, `kmp_destroy_affinity_mask_target()`, `kmp_get_affinity_mask_proc_target()`, `kmp_get_affinity_target()`, `kmp_set_affinity_mask_proc_target()`, `kmp_set_affinity_target()`, `kmp_unset_affinity_mask_proc_target()`, `OffloadDescriptor::merge_var_descs()`, `omp_destroy_lock_target()`, `omp_destroy_nest_lock_target()`, `omp_get_int_target()`, `omp_get_schedule_target()`, `omp_init_lock_target()`, `omp_init_nest_lock_target()`, `omp_set_int_target()`, `omp_set_lock_target()`, `omp_set_nest_lock_target()`, `omp_set_schedule_target()`, `omp_test_lock_target()`, `omp_test_nest_lock_target()`, `omp_unset_lock_target()`, `omp_unset_nest_lock_target()`, `OffloadDescriptor::receive_pointer_data()`, `OffloadDescriptor::recieve_noncontiguous_pointer_data()`, `OffloadDescriptor::scatter_copyin_data()`, `OffloadDescriptor::send_noncontiguous_pointer_data()`, `OffloadDescriptor::send_pointer_data()`, and `OffloadDescriptor::setup_descriptors()`.

uint8_t VarDesc::src

OffloadItemType of source.

Definition at line 181 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gather_copyin_data()`, `OffloadDescriptor::gather_copyout_data()`, `OffloadDescriptor::gen_var_descs_for_pointer_array()`, `kmp_create_affinity_mask_lrb()`, `kmp_create_affinity_mask_target()`, `kmp_destroy_affinity_mask_lrb()`, `kmp_destroy_affinity_mask_target()`, `kmp_get_affinity_lrb()`, `kmp_get_affinity_mask_proc_lrb()`, `kmp_get_affinity_mask_proc_target()`, `kmp_get_affinity_target()`, `kmp_set_affinity_lrb()`, `kmp_set_affinity_mask_proc_lrb()`, `kmp_set_affinity_mask_proc_target()`, `kmp_set_affinity_target()`, `kmp_set_defaults_lrb()`, `kmp_set_defaults_target()`, `kmp_unset_affinity_mask_proc_lrb()`, `kmp_unset_affinity_mask_proc_target()`, `OffloadDescriptor::merge_var_descs()`, `omp_destroy_lock_lrb()`, `omp_destroy_lock_target()`, `omp_destroy_nest_lock_lrb()`, `omp_destroy_nest_lock_target()`, `omp_get_int_from_host()`, `omp_get_int_target()`, `omp_get_schedule_lrb()`, `omp_get_schedule_target()`, `omp_init_lock_lrb()`, `omp_init_lock_target()`, `omp_init_nest_lock_lrb()`, `omp_init_nest_lock_target()`, `omp_send_int_to_host()`, `omp_set_int_target()`, `omp_set_lock_lrb()`, `omp_set_lock_target()`, `omp_set_nest_lock_lrb()`, `omp_set_nest_lock_target()`, `omp_set_schedule_lrb()`, `omp_set_schedule_target()`, `omp_test_lock_lrb()`, `omp_test_lock_target()`, `omp_test_nest_lock_lrb()`, `omp_test_nest_lock_target()`, `omp_unset_lock_lrb()`, `omp_unset_lock_target()`, `omp_unset_nest_lock_lrb()`, `omp_unset_nest_lock_target()`, `OffloadDescriptor::receive_pointer_data()`, `OffloadDescriptor::scatter_copyin_data()`, `OffloadDescriptor::scatter_copyout_data()`, `OffloadDescriptor::send_noncontiguous_pointer_data()`, `OffloadDescriptor::send_pointer_data()`, and `OffloadDescriptor::setup_descriptors()`.

union f... g VarDesc::type

OffloadItemTypes of source and destination.

Referenced by `OffloadDescriptor::gather_copyout_data()`, `OffloadDescriptor::gen_var_descs_for_pointer_array()`, `kmp_create_affinity_mask_lrb()`, `kmp_create_affinity_mask_target()`, `kmp_destroy_affinity_mask_lrb()`, `kmp_destroy_affinity_mask_target()`, `kmp_get_affinity_lrb()`, `kmp_get_affinity_mask_proc_lrb()`, `kmp_get_affinity_mask_proc_target()`, `kmp_get_affinity_target()`, `kmp_set_affinity_lrb()`, `kmp_set_affinity_mask_proc_lrb()`, `kmp_set_affinity_mask_proc_target()`, `kmp_set_affinity_target()`, `kmp_set_defaults_lrb()`, `kmp_set_defaults_target()`, `kmp_unset_affinity_mask_proc_lrb()`, `kmp_unset_affinity_mask_proc_target()`, `OffloadDescriptor::merge_var_descs()`, `omp_destroy_lock_lrb()`, `omp_destroy_lock_target()`, `omp_destroy_nest_lock_lrb()`, `omp_destroy_nest_lock_target()`, `omp_get_int_from_host()`,

- *Scalar value or pointer to [arr_desc](#).*
- void [extent_start](#)
- *Scalar value or pointer to [arr_desc](#).*
- void [extent_elements](#)
- *Scalar value or pointer to [arr_desc](#).*
- void [into_start](#)
- *Scalar value or pointer to [arr_desc](#).*
- void [into_elements](#)
- *Scalar value or pointer to [arr_desc](#).*
- void [alloc_start](#)
- *Scalar value or pointer to [arr_desc](#).*
- void [alloc_elements](#)
- *Scalar value or pointer to [arr_desc](#).*
- uint32_t [array_fields](#)

6.89.1 Detailed Description

When the OffloadItemType is c_data_ptr_array the ptr field of the main descriptor points to this struct. The mtp is dVamaerel tsy c

uint32_t VarDesc3::array_fields

Flags that describe the pointer type and whether each field is a scalar value or an array expression.

First 6 bits are pointer array element type: `c_data_ptr`, `c_func_ptr`, `c_void_ptr`, `c_string_ptr`

Then single bits specify:

`align_array` is an array

`alloc_if_array` is an array

`free_if_array` is an array

`extent_start` is a scalar expression

`extent_start` is an array expression

`extent_elements` is a scalar expression

`extent_elements` is an array expression

`into_start` is a scalar expression

`into_start` is an array expression

`into_elements` is a scalar expression

`into_elements` is an array expression

`alloc_start` is a scalar expression

`alloc_start` is an array expression

`alloc_elements` is a scalar expression

`alloc_elements` is an array expression

Definition at line 311 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

void VarDesc3::extent_elements

Scalar value or pointer to [arr_desc](#).

Definition at line 286 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

void VarDesc3::extent_start

Scalar value or pointer to [arr_desc](#).

Definition at line 285 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

void VarDesc3::free_if_array

Scalar value or pointer to [arr_desc](#).

Definition at line 284 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

void VarDesc3::into_elements

Scalar value or pointer to [arr_desc](#).

Definition at line 288 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

void VarDesc3::into_start

Scalar value or pointer to [arr_desc](#).

Definition at line 287 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

void VarDesc3::ptr_array

Pointer to [arr_desc](#) of array of pointers.

Definition at line 281 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

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

- [offload_common.h](#)

6.90 OffloadDescriptor::VarExtra Struct Reference

Public Attributes

- [PtrData](#) `src_data`
- [PtrData](#) `dst_data`
- [AutoData](#) `auto_data`
- `int64_t` `cpu_disp`
- `int64_t` `cpu_offset`
- [CleanReadRanges](#) `read_rng_src`
- [CleanReadRanges](#) `read_rng_dst`
- `int64_t` `ptr_arr_offset`
- `bool` `is_arr_ptr_el`

6.90.1 Detailed Description

Definition at line 144 of file `offload_host.h`.

6.90.2 Member Data Documentation

AutoData `OffloadDescriptor::VarExtra::auto_data`

Definition at line 147 of file `offload_host.h`.

Referenced by `OffloadDescriptor::receive_pointer_data()`, and `OffloadDescriptor::setup_descriptors()`.

int64_t `OffloadDescriptor::VarExtra::cpu_disp`

Definition at line 148 of file `offload_host.h`.

Referenced by `OffloadDescriptor::receive_pointer_data()`, `OffloadDescriptor::recieve_noncontiguous_pointer_data()`, `OffloadDescriptor::send_noncontiguous_pointer_data()`, `OffloadDescriptor::send_pointer_data()`, and `OffloadDescriptor::setup_descriptors()`.

int64_t `OffloadDescriptor::VarExtra::cpu_offset`

Definition at line 149 of file `offload_host.h`.

Referenced by `OffloadDescriptor::receive_pointer_data()`, `OffloadDescriptor::recieve_noncontiguous_pointer_data()`, `OffloadDescriptor::send_noncontiguous_pointer_data()`, `OffloadDescriptor::send_pointer_data()`, and `OffloadDescriptor::setup_descriptors()`.

PtrData `OffloadDescriptor::VarExtra::dst_data`

Definition at line 146 of file `offload_host.h`.

Referenced by `OffloadDescriptor::gather_copyin_data()`, `OffloadDescriptor::receive_pointer_data()`, `OffloadDescriptor::send_pointer_data()`, and `OffloadDescriptor::setup_descriptors()`.

bool `OffloadDescriptor::VarExtra::is_arr_ptr_el`

Definition at line 153 of file `offload_host.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

int64_t `OffloadDescriptor::VarExtra::ptr_arr_offset`

Definition at line 152 of file `offload_host.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::send_pointer_data()`.

CeanReadRanges OffloadDescriptor::VarExtra::read_rng_dst

Definition at line 151 of file offload_host.h.

Referenced by OffloadDescriptor::recieve_noncontiguous_pointer_data(), OffloadDescriptor::send_noncontiguous_pointer_data(), and OffloadDescriptor::setup_descriptors().

CeanReadRanges OffloadDescriptor::VarExtra::read_rng_src

Definition at line 150 of file offload_host.h.

Referenced by OffloadDescriptor::recieve_noncontiguous_pointer_data(), OffloadDescriptor::send_noncontiguous_pointer_data(), and OffloadDescriptor::setup_descriptors().

PtrData OffloadDescriptor::VarExtra::src_data

Definition at line 145 of file offload_host.h.

Referenced by OffloadDescriptor::gather_copyin_data(), OffloadDescriptor::receive_pointer_data(), OffloadDescriptor::recieve_noncontiguous_pointer_data(), OffloadDescriptor::send_pointer_data(), and OffloadDescriptor::setup_descriptors().

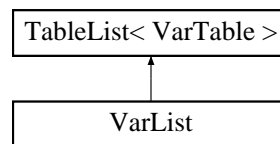
The documentation for this struct was generated from the following file:

- [offload_host.h](#)

6.91 VarList Class Reference

```
#include <offload_table.h>
```

Inheritance diagram for VarList:



Classes

- struct [BufEntry](#)
- class [Iterator](#)

Public Member Functions

- [VarList](#) ()
- void [dump](#) ()
- [Iterator begin](#) () const
- [Iterator end](#) () const
- int64_t [table_size](#) (int64_t &nelems)
- void [table_copy](#) (void buf, int64_t nelems)

Static Public Member Functions

- static void [table_patch_names](#) (void buf, int64_t nelems)

Additional Inherited Members

6.91.1 Detailed Description

Definition at line 155 of file offload_table.h.

6.91.2 Constructor & Destructor Documentation

VarList::VarList () [inline]

Definition at line 157 of file `offload_table.h`.

6.91.3 Member Function Documentation

Iterator VarList::begin () const [inline]

Definition at line 221 of file `offload_table.h`.

Referenced by `Engine::init_ptr_data()`.

void VarList::dump (void)

Definition at line 264 of file `offload_table.cpp`.

Iterator VarList::end () const [inline]

Definition at line 225 of file `offload_table.h`.

Referenced by `Engine::init_ptr_data()`.

void VarList::table_copy (void buf, int64_t nelems)

Definition at line 309 of file `offload_table.cpp`.

Referenced by `server_var_table_copy()`.

void VarList::table_patch_names (void buf, int64_t nelems) [static]

Definition at line 335 of file `offload_table.cpp`.

Referenced by `Engine::init_ptr_data()`.

int64_t VarList::table_size (int64_t & nelems)

Definition at line 288 of file `offload_table.cpp`.

Referenced by `server_var_table_size()`.

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

- [offload_table.h](#)
- [offload_table.cpp](#)

6.92 VarTable Struct Reference

```
#include <offload_table.h>
```

Classes

- struct [Entry](#)

Variable table entry.

Public Attributes

- const [Entry](#) entries

6.92.1 Detailed Description

Definition at line 125 of file `offload_table.h`.

6.92.2 Member Data Documentation

`const Entry VarTable::entries`

Definition at line 151 of file `offload_table.h`.

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

- [offload_table.h](#)

6.93 MicEnvVar::VarValue Struct Reference

```
#include <offload_env.h>
```

Public Member Functions

- [VarValue](#) (char var, int ln, char value)
- [VarValue](#) ()

Public Attributes

- char [env_var](#)
- int [length](#)
- char [env_var_value](#)

6.93.1 Detailed Description

Definition at line 51 of file `offload_env.h`.

6.93.2 Constructor & Destructor Documentation

`MicEnvVar::VarValue::VarValue (char var, int ln, char value) [inline]`

Definition at line 57 of file `offload_env.h`.

`MicEnvVar::VarValue:: VarValue ()`

Definition at line 30 of file `offload_env.cpp`.

6.93.3 Member Data Documentation

`char MicEnvVar::VarValue::env_var`

Definition at line 53 of file `offload_env.h`.

Referenced by `MicEnvVar::create_envron_for_card()`, `MicEnvVar::CardEnvVars::find_var()`, and `VarValue()`.

`char MicEnvVar::VarValue::env_var_value`

Definition at line 55 of file `offload_env.h`.

Referenced by `MicEnvVar::create_envron_for_card()`, `VarValue()`, and `VarValue()`.

`int MicEnvVar::VarValue::length`

Definition at line 54 of file `offload_env.h`.

Referenced by `MicEnvVar::create_envron_for_card()`, `MicEnvVar::CardEnvVars::find_var()`, and `VarValue()`.

The documentation for this struct was generated from the following files:

- [offload_env.h](#)
- [offload_env.cpp](#)

Chapter 7

File Documentation

7.1 cean_util.cpp File Reference

```
#include "cean_util.h"
#include "offload_common.h"
```

Typedefs

- typedef void([fpp](#))(const char spaces, uint64_t low, uint64_t high, int esize)

Functions

- [CleanReadRanges](#) [init_read_ranges_arr_desc](#) (const [arr_desc](#) ap)
- bool [cean_ranges_match](#) ([CleanReadRanges](#) read_rng1, [CleanReadRanges](#) read_rng2)
- bool [get_next_range](#) ([CleanReadRanges](#) read_rng, int64_t offset)
- bool [is_arr_desc_contiguous](#) (const [arr_](#)

int64_t cean_get_transf_size (CeanReadRanges read_rng)

Definition at line 121 of file cean_util.cpp.

Referenced by OffloadDescriptor::setup_descriptors().

bool cean_ranges_match (CeanReadRanges read_rng1, CeanReadRanges read_rng2)

Definition at line 65 of file cean_util.cpp.

Referenced by OffloadDescriptor::setup_descriptors().

**static void generate_mem_ranges (const char spaces, const arr_desc adp, bool deref, fpp fp)
[static]**

Definition at line 199 of file cean_util.cpp.

**static void generate_mem_ranges_one_rank (const char spaces, uint64_t base, uint64_t rank, const
struct dim_desc ddp, fpp fp, int esize) [static]**

Definition at line 156 of file cean_util.cpp.

Referenced by generate_mem_ranges().

**static void generate_one_range (const char spaces, uint64_t lrange, uint64_t rrange, fpp fp, int esize)
[static]**

Definition at line 129 of file cean_util.cpp.

Referenced by generate_mem_ranges_one_rank().

bool get_next_range (CeanReadRanges read_rng, int64_t offset)

Definition at line 77 of file cean_util.cpp.

Referenced by OffloadDescriptor::ReadArrElements< T >::read_next(), OffloadDescriptor::recieve_-noncontiguous_pointer_data(), and OffloadDescriptor::send_noncontiguous_pointer_data().

CeanReadRanges init_read_ranges_arr_desc (const arr_desc ap)

Definition at line 17 of file cean_util.cpp.

Referenced by get_arr_desc_numbers(), and OffloadDescriptor::setup_descriptors().

bool is_arr_desc_contiguous (const arr_desc ap)

Definition at line 99 of file cean_util.cpp.

Referenced by get_arr_desc_numbers(), and OffloadDescriptor::setup_descriptors().

7.1.3 Variable Documentation

uint64_t last_left [static]

Definition at line 126 of file cean_util.cpp.

Referenced by generate_mem_ranges(), and generate_one_range().

uint64_t last_right [static]

Definition at line 126 of file cean_util.cpp.

Referenced by generate_mem_ranges(), and generate_one_range().

7.2 cean_util.h File Reference

```
#include <stdint.h>
```

Classes

- struct [dim_desc](#)
- struct [arr_desc](#)
- struct [CeanReadDim](#)
- struct [CeanReadRanges](#)

Macros

- #define [__arr_desc_length](#)(rank) (sizeof(int64_t) + sizeof(dim_desc) (rank))
- #define [__arr_desc_dump](#)(spaces, name, adp, dereference)

Functions

- void [__arr_data_offset_and_length](#) (const [arr_desc](#) adp, int64_t &offset, int64_t &length)
- bool [is_arr_desc_contiguous](#) (const [arr_desc](#) ap)
- [CeanReadRanges](#) [init_read_ranges_arr_desc](#) (const [arr_desc](#) ap)
- bool [cean_ranges_match](#) ([CeanReadRanges](#) read_rng1, [CeanReadRanges](#) read_rng2)
- bool [get_next_range](#) ([CeanReadRanges](#) read_rng, int64_t offset)
- int64_t [cean_get_transf_size](#) ([CeanReadRanges](#) read_rng)

7.2.1 Macro Definition Documentation

#define [__arr_desc_dump](#)(spaces, name, adp, dereference)

Definition at line 93 of file [cean_util.h](#).

Referenced by [OffloadDescriptor::setup_descriptors\(\)](#).

#define [__arr_desc_length](#)(rank) (sizeof(int64_t) + sizeof(dim_desc) (rank))

Definition at line 48 of file [cean_util.h](#).

7.2.2 Function Documentation

void [__arr_data_offset_and_length](#) (const [arr_desc](#) adp, int64_t & offset, int64_t & length)

Definition at line 227 of file [cean_util.cpp](#).

Referenced by [get_arr_desc_numbers\(\)](#), and [OffloadDescriptor::setup_descriptors\(\)](#).

int64_t [cean_get_transf_size](#) ([CeanReadRanges](#) read_rng)

Definition at line 121 of file [cean_util.cpp](#).

Referenced by [OffloadDescriptor::setup_descriptors\(\)](#).

bool [cean_ranges_match](#) ([CeanReadRanges](#) read_rng1, [CeanReadRanges](#) read_rng2)

Definition at line 65 of file [cean_util.cpp](#).

Referenced by [OffloadDescriptor::setup_descriptors\(\)](#).

bool [get_next_range](#) ([CeanReadRanges](#) read_rng, int64_t offset)

Definition at line 77 of file [cean_util.cpp](#).

Referenced by [OffloadDescriptor::ReadArrElements< T >::read_next\(\)](#), [OffloadDescriptor::recieve_-noncontiguous_pointer_data\(\)](#), and [OffloadDescriptor::send_noncontiguous_pointer_data\(\)](#).

[CeanReadRanges](#) [init_read_ranges_arr_desc](#) (const [arr_desc](#) ap)

Definition at line 17 of file [cean_util.cpp](#).

Referenced by [get_arr_desc_numbers\(\)](#), and [OffloadDescriptor::setup_descriptors\(\)](#).

bool is_arr_desc_contiguous (const arr_desc ap)

Definition at line 99 of file cean_util.cpp.

Referenced by get_arr_desc_numbers(), and OffloadDescriptor::setup_descriptors().

7.3 coi/coi_client.cpp File Reference

```
#include "coi_client.h"
#include "../offload_common.h"
```

Namespaces

- [COI](#)

Macros

- `#define` [COI_VERSION1](#) "COI.1.0"
- `#define` [COI_VERSION2](#) "COI.2.0"

Functions

- bool [COI::init](#) (void)
- void [COI::fini](#) (void)

Variables

- bool [COI::is_available](#)
- static void [COI::lib_handle](#)
- COIRESULT([COI::EngineGetCount](#))(COI_ISA_TYPE, uint32_t)
- COIRESULT([COI::EngineGetHandle](#))(COI_ISA_TYPE, uint32_t, COIENGINE)
- COIRESULT([COI::ProcessCreateFromMemory](#))(COIENGINE, const char , const void , uint64_t, int, const char , uint8_t, const char , uint8_t, const char , uint64_t, const char , const char , uint64_t, COIPROCESS)
- COIRESULT([COI::ProcessDestroy](#))(COIPROCESS, int32_t, uint8_t, int8_t , uint32_t)
- COIRESULT([COI::ProcessGetFunctionHandles](#))(COIPROCESS, uint32_t, const char , COIFUNCTION)
- COIRESULT([COI::ProcessLoadLibraryFromMemory](#))(COIPROCESS, const void , uint64_t, const char , const char , const char , uint64_t, uint32_t, COILIBRARY)
- COIRESULT([COI::ProcessRegisterLibraries](#))(uint32_t, const void , const uint64_t , const char , const uint64_t)
- COIRESULT([COI::PipelineCreate](#))(COIPROCESS, COI_CPU_MASK, uint32_t, COIPIPELINE)
- COIRESULT([COI::PipelineDestroy](#))(COIPIPELINE)
- COIRESULT([COI::PipelineRunFunction](#))(COIPIPELINE, COIFUNCTION, uint32_t, const COIBUFFER , const COI_ACCESS_FLAGS , uint32_t, const COIEVENT , const void , uint16_t, void , uint16_t, COIEVENT)
- COIRESULT([COI::BufferCreate](#))(uint64_t, COI_BUFFER_TYPE, uint32_t, const void , uint32_t, const COIPROCESS , COIBUFFER)
- COIRESULT([COI::BufferCreateFromMemory](#))(uint64_t, COI_BUFFER_TYPE, uint32_t, void , uint32_t, const COIPROCESS , COIBUFFER)
- COIRESULT([COI::BufferDestroy](#))(COIBUFFER)
- COIRESULT([COI::BufferMap](#))(COIBUFFER, uint64_t, uint64_t, COI_MAP_TYPE, uint32_t, const COIEVENT , COIEVENT , COIMAPINSTANCE , void)
- COIRESULT([COI::BufferUnmap](#))(COIMAPINSTANCE, uint32_t, const COIEVENT , COIEVENT)
- COIRESULT([COI::BufferWrite](#))(COIBUFFER, uint64_t, const void , uint64_t, COI_COPY_TYPE, uint32_t, const COIEVENT , COIEVENT)

- COIRERESULT([COI::BufferRead](#))(COIBUFFER, uint64_t, void , uint64_t, COI_COPY_TYPE, uint32_t, const COIEVENT , COIEVENT)
- COIRERESULT([COI::BufferCopy](#))(COIBUFFER, COIBUFFER, uint64_t, uint64_t, uint64_t, COI_COPY_TYPE, uint32_t, const COIEVENT , COIEVENT)
- COIRERESULT([COI::BufferGetSinkAddress](#))(COIBUFFER, uint64_t)
- COIRERESULT([COI::BufferSetState](#))(COIBUFFER, COIPROCESS, COI_BUFFER_STATE, COI_BUFFER_MOVE_FLAG, uint32_t, const COIEVENT , COIEVENT)
- COIRERESULT([COI::EventWait](#))(uint16_t, const COIEVENT , int32_t, uint8_t, uint32_t , uint32_t)
- uint64_t([COI::PerfGetCycleFrequency](#))(void)

7.3.1 Macro Definition Documentation

#define COI_VERSION1 "COI.1.0"

Definition at line 18 of file coi_client.cpp.

Referenced by COI::init().

#define COI_VERSION2 "COI.2.0"

Definition at line 19 of file coi_client.cpp.

Referenced by COI::init().

7.4 coi/coi_client.h File Reference

```
#i ncl ude <common/COI Perf_common. h>
#i ncl ude <source/COI Engi ne_source. h>
#i ncl ude <source/COI Process_source. h>
#i ncl ude <source/COI Pi pel i ne_source. h>
#i ncl ude <source/COI Buffer_source. h>
#i ncl ude <source/COI Event_source. h>
#i ncl ude <stri ng. h>
#i ncl ude " . . . /l i boffl oad_error_codes. h"
#i ncl ude " . . . /offl oad_util . h"
```

Namespaces

- [COI](#)

Macros

- #define [MIC_ENGINES_MAX](#) 128

Functions

- bool [COI::init](#) (void)
- void [COI::fini](#) (void)

7.4.1 Macro Definition Documentation

#define MIC_ENGINES_MAX 128

Definition at line 28 of file coi_client.h.

Referenced by __offload_init_library_once(), __offload_myofFini(), and __offload_myofInit_once().

7.5 coi/coi_server.cpp File Reference

```
#include "coi_server.h"
#include "../offload_target.h"
#include "../offload_timer.h"
```

Functions

- COINATIVELIBEXPORT void [server_compute](#) (uint32_t buffer_count, void buffers, uint64_t buffers.len, void misc_data, uint16_t misc_data.len, void return_data, uint16_t return_data.len)
- COINATIVELIBEXPORT void [server_init](#) (uint32_t buffer_count, void buffers, uint64_t buffers.len, void misc_data, uint16_t misc_data.len, void return_data, uint16_t return_data.len)
- COINATIVELIBEXPORT void [server_var_table_size](#) (uint32_t buffer_count, void buffers, uint64_t buffers.len, void misc_data, uint16_t misc_data.len, void return_data, uint16_t return_data.len)
- COINATIVELIBEXPORT void [server_var_table_copy](#) (uint32_t buffer_count, void buffers, uint64_t buffers.len, void misc_data, uint16_t misc_data.len, void return_data, uint16_t return_data.len)

7.5.1 Function Documentation

COINATIVELIBEXPORT void [server_compute](#) (uint32_t *buffer_count*, void *buffers*, uint64_t *buffers.len*, void *misc_data*, uint16_t *misc_data.len*, void *return_data*, uint16_t *return_data.len*)

Definition at line 22 of file coi_server.cpp.

COINATIVELIBEXPORT void [server_init](#) (uint32_t *buffer_count*, void *buffers*, uint64_t *buffers.len*, void *misc_data*, uint16_t *misc_data.len*, void *return_data*, uint16_t *return_data.len*)

Definition at line 38 of file coi_server.cpp.

COINATIVELIBEXPORT void [server_var_table_copy](#) (uint32_t *buffer_count*, void *buffers*, uint64_t *buffers.len*, void *misc_data*, uint16_t *misc_data.len*, void *return_data*, uint16_t *return_data.len*)

Definition at line 88 of file coi_server.cpp.

COINATIVELIBEXPORT void [server_var_table_size](#) (uint32_t *buffer_count*, void *buffers*, uint64_t *buffers.len*, void *misc_data*, uint16_t *misc_data.len*, void *return_data*, uint16_t *return_data.len*)

Definition at line 68 of file coi_server.cpp.

7.6 coi/coi_server.h File Reference

```
#include <common/COI_Engine_common.h>
#include <common/COI_Perf_common.h>
#include <sink/COI_Process_sink.h>
#include <sink/COI_Pipelined_sink.h>
#include <sink/COI_Buffer_sink.h>
#include <list>
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include "../liboffload_error_codes.h"
```

Macros

- #define [PipelineStartExecutingRunFunctions\(\)](#)
- #define [ProcessWaitForShutdown\(\)](#)
- #define [BufferAddRef\(buf\)](#)
- #define [BufferReleaseRef\(buf\)](#)
- #define [EngineGetIndex\(index\)](#)

7.6.1 Macro Definition Documentation

#define BufferAddRef(buf)

Value:

```
{ n
    COI_RESULT res = COI_BufferAddRef(buf); n
    if (res != COI_SUCCESS) { n
        LI_BOFFLOAD_ERROR(c_buf_add_ref,
        mi_c_index, res); n
        exit(1); n
    } n
}
```

Definition at line 46 of file coi_server.h.

Referenced by OffloadDescriptor::scatter_copyin_data().

#define BufferReleaseRef(buf)

Value:

```
{ n
    COI_RESULT res = COI_BufferReleaseRef(buf); n
    if (res != COI_SUCCESS) { n
        LI_BOFFLOAD_ERROR(c_buf_release_ref,
        mi_c_index, res); n
        exit(1); n
    } n
}
```

Definition at line 55 of file coi_server.h.

Referenced by OffloadDescriptor::scatter_copyin_data().

#define EngineGetIndex(index)

Value:

```
{ n
    COI_ISA_TYPE isa_type; n
    COI_RESULT res = COI_EngineGetIndex(&isa_type, index); n
    if (res != COI_SUCCESS) { n
        LI_BOFFLOAD_ERROR(c_get_engine_index,
        mi_c_index, res); n
        exit(1); n
    } n
}
```

Definition at line 64 of file coi_server.h.

Referenced by _Offload_get_physical_device_number().

#define PipelineStartExecutingRunFunctions()

Value:

```
{ n
    COI_RESULT res = COI_PipelineStartExecutingRunFunctions(); n
    if (res != COI_SUCCESS) { n
        LI_BOFFLOAD_ERROR(
        c_pipeline_start_run_funcs, mi_c_index, res); n
        exit(1); n
    } n
}
```

Definition at line 28 of file coi_server.h.

Referenced by OFFLOAD_TARGET_MAIN().

#define ProcessWaitForShutdown()

Value:

```
{
    COI_RESULT res = COI_ProcessWaitForShutdown();
    if (res != COI_SUCCESS) {
        LIBOFFLOAD_ERROR(c_process_wait_shutdown,
            m_index, res);
        exit(1);
    }
}
```

Definition at line 37 of file coi_server.h.

Referenced by OFFLOAD_TARGET_MAIN().

7.7 compiler_if_host.cpp File Reference

```
#include "compiler_if_host.h"
#include <malloc.h>
#include <alloca.h>
```

Functions

- **OFFLOAD OFFLOAD_TARGET_ACQUIRE** (**TARGET_TYPE** target_type, int target_number, int is_optional, **Offload_status** status, const char file, uint64_t line)
- **OFFLOAD OFFLOAD_TARGET_ACQUIRE1** (const int device_num, const char file, uint64_t line)
- int **offload_offload_wrap** (**OFFLOAD** ofld, const char name, int is_empty, int num_vars, **VarDesc** vars, **VarDesc2** vars2, int num_waits, const void waits, const void signal, int entry_id, const void stack_addr)
- int **OFFLOAD_OFFLOAD1** (**OFFLOAD** ofld, const char name, int is_empty, int num_vars, **VarDesc** vars, **VarDesc2** vars2, int num_waits, const void waits, const void signal)
- int **OFFLOAD_OFFLOAD2** (**OFFLOAD** ofld, const char name, int is_empty, int num_vars, **VarDesc** vars, **VarDesc2** vars2, int num_waits, const void waits, const void signal, int entry_id, const void stack_addr)
- int **OFFLOAD_OFFLOAD** (**OFFLOAD** ofld, const char name, int is_empty, int num_vars, **VarDesc** vars, **VarDesc2** vars2, int num_waits, const void waits, const void signal, int entry_id, const void stack_addr)
- int **OFFLOAD_CALL_COUNT** ()

Variables

- static int **offload_call_count** = 0

7.7.1 Function Documentation

int OFFLOAD_CALL_COUNT ()

Definition at line 319 of file compiler_if_host.cpp.

int OFFLOAD_OFFLOAD (OFFLOAD ofld, const char name, int is_empty, int num_vars, VarDesc vars, VarDesc2 vars2, int num_waits, const void waits, const void signal, int entry_id, const void stack_addr)

Definition at line 284 of file compiler_if_host.cpp.

int OFFLOAD_OFFLOAD1 (OFFLOAD ofld, const char name, int is_empty, int num_vars, VarDesc vars, VarDesc2 vars2, int num_waits, const void waits, const void signal)

Definition at line 246 of file compiler_if_host.cpp.

Referenced by OFFLOAD_OFFLOAD().

```
int OFFLOAD_OFFLOAD2 ( OFFLOAD ofld, const char  name, int is_empty, int num_vars, VarDesc
vars, VarDesc2  vars2, int num_waits, const void  waits, const void  signal, int entry_id, const void
stack_addr )
```

Definition at line 264 of file compiler_if_host.cpp.

```
int offload_offload.wrap ( OFFLOAD ofld, const char  name, int is_empty, int num_vars, VarDesc  vars,
VarDesc2  vars2, int num_waits, const void  waits, const void  signal, int entry_id, const void
stack_addr )
```

Definition at line 224 of file compiler_if_host.cpp.

Referenced by OFFLOAD_OFFLOAD1(), and OFFLOAD_OFFLOAD2().

```
OFFLOAD OFFLOAD_TARGET_ACQUIRE ( TARGET_TYPE target_type, int target_number, int is_optional,
_Offload.status  status, const char  file, uint64_t line )
```

Definition at line 25 of file compiler_if_host.cpp.

```
OFFLOAD OFFLOAD_TARGET_ACQUIRE1 ( const int  device_num, const char  file, uint64_t line )
```

Definition at line 144 of file compiler_if_host.cpp.

7.7.2 Variable Documentation

```
int offload_call_count = 0  [static]
```

Definition at line 23 of file compiler_if_host.cpp.

Referenced by OFFLOAD_CALL_COUNT().

7.8 compiler_if_host.h File Reference

The interface between compiler-generated host code and runtime library.

```
#include "offload_host.h"
```

Macros

- `#define OFFLOAD_TARGET_ACQUIRE OFFLOAD_PREFIX(target_acquire)`
Attempt to acquire the target.
- `#define OFFLOAD_TARGET_ACQUIRE1 OFFLOAD_PREFIX(target_acquire1)`
Acquire the target for offload (OpenMP).
- `#define OFFLOAD_OFFLOAD OFFLOAD_PREFIX(offload)`
- `#define OFFLOAD_OFFLOAD1 OFFLOAD_PREFIX(offload1)`
Run function on target using interface for old data persistence.
- `#define OFFLOAD_OFFLOAD2 OFFLOAD_PREFIX(offload2)`
Run function on target using interface for new data persistence.
- `#define OFFLOAD_CALL_COUNT OFFLOAD_PREFIX(offload_call_count)`

Functions

- `OFFLOAD OFFLOAD_TARGET_ACQUIRE (TARGET_TYPE target_type, int target_number, int is_optional, _-`
`Offload.status status, const char file, uint64_t line)`
- `OFFLOAD OFFLOAD_TARGET_ACQUIRE1 (const int device_number, const char file, uint64_t line)`
- `int OFFLOAD_OFFLOAD1 (OFFLOAD o, const char name, int is_empty, int num_vars, VarDesc vars, Var-`
`Desc2 vars2, int num_waits, const void waits, const void signal)`
- `int OFFLOAD_OFFLOAD2 (OFFLOAD o, const char name, int is_empty, int num_vars, VarDesc vars, Var-`
`Desc2 vars2, int num_waits, const void waits, const void signal, int entry_id, const void stack_addr)`

- int **OFFLOAD_OFFLOAD** (**OFFLOAD** o, const char name, int is_empty, int num_vars, **VarDesc** vars, **VarDesc2** vars2, int num_waits, const void waits, const void signal, int entry_id=0, const void stack_addr=NULL)
- int **OFFLOAD_CALL_COUNT** ()

7.8.1 Detailed Description

The interface between compiler-generated host code and runtime library.

Definition in file [compiler_if_host.h](#).

7.8.2 Macro Definition Documentation

#define OFFLOAD_CALL_COUNT OFFLOAD_PREFIX(offload_call_count)

Definition at line 25 of file [compiler_if_host.h](#).

#define OFFLOAD_OFFLOAD OFFLOAD_PREFIX(offload)

Definition at line 22 of file [compiler_if_host.h](#).

Referenced by [kmp_create_affinity_mask_target\(\)](#), [kmp_destroy_affinity_mask_target\(\)](#), [kmp_get_affinity_mask_proc_target\(\)](#), [kmp_get_affinity_target\(\)](#), [kmp_set_affinity_mask_proc_target\(\)](#), [kmp_set_affinity_target\(\)](#), [kmp_set_defaults_target\(\)](#), [kmp_set_library_serial_target\(\)](#), [kmp_set_library_throughput_target\(\)](#), [kmp_set_library_turnaround_target\(\)](#), [kmp_unset_affinity_mask_proc_target\(\)](#), [omp_destroy_lock_target\(\)](#), [omp_destroy_nest_lock_target\(\)](#), [omp_get_int_target\(\)](#), [omp_get_schedule_target\(\)](#), [omp_init_lock_target\(\)](#), [omp_init_nest_lock_target\(\)](#), [omp_set_int_target\(\)](#), [omp_set_lock_target\(\)](#), [omp_set_nest_lock_target\(\)](#), [omp_set_schedule_target\(\)](#), [omp_test_lock_target\(\)](#), [omp_test_nest_lock_target\(\)](#), [omp_unset_lock_target\(\)](#), and [omp_unset_nest_lock_target\(\)](#).

OFFLOAD_OFFLOAD1 OFFLOAD_PREFIX(offload1)

Run function on target using interface for old data persistence.

Parameters

<i>o</i>	Offload descriptor created by OFFLOAD_TARGET_ACQUIRE .
<i>name</i>	Name of offload entry point.
<i>is_empty</i>	If no code to execute (e.g. offload.transfer)
<i>num_vars</i>	Number of variable descriptors.
<i>vars</i>	Pointer to VarDesc array.
<i>vars2</i>	Pointer to VarDesc2 array.
<i>num_waits</i>	Number of "wait" values.
<i>waits</i>	Pointer to array of wait values.
<i>signal</i>	Pointer to signal value or NULL.

Definition at line 23 of file [compiler_if_host.h](#).

OFFLOAD_OFFLOAD2 OFFLOAD_PREFIX(offload2)

Run function on target using interface for new data persistence.

Parameters

<i>o</i>	Offload descriptor created by OFFLOAD_TARGET_ACQUIRE .
<i>name</i>	Name of offload entry point.
<i>is_empty</i>	If no code to execute (e.g. offload.transfer)
<i>num_vars</i>	Number of variable descriptors.
<i>vars</i>	Pointer to VarDesc array.

<i>vars2</i>	Pointer to VarDesc2 array.
<i>num_waits</i>	Number of "wait" values.
<i>waits</i>	Pointer to array of wait values.
<i>signal</i>	Pointer to signal value or NULL.
<i>entry_id</i>	A signature for the function doing the offload.
<i>stack_addr</i>	The stack frame address of the function doing offload.

Definition at line 24 of file `compiler_if_host.h`.

OFFLOAD_TARGET_ACQUIRE OFFLOAD_PREFIX(target.acquire)

Attempt to acquire the target.

Parameters

<i>target.type</i>	The type of target.
<i>target.number</i>	The device number.
<i>is_optional</i>	Whether CPU fall-back is allowed.
<i>status</i>	Address of variable to hold offload status.
<i>file</i>	Filename in which this offload occurred.
<i>line</i>	Line number in the file where this offload occurred.

Definition at line 20 of file `compiler_if_host.h`.

Referenced by `kmp_create_affinity_mask_target()`, `kmp_destroy_affinity_mask_target()`, `kmp_get_affinity_mask_proc_target()`, `kmp_get_affinity_target()`, `kmp_set_affinity_mask_proc_target()`, `kmp_set_affinity_target()`, `kmp_set_defaults_target()`, `kmp_set_library_serial_target()`, `kmp_set_library_throughput_target()`, `kmp_set_library_turnaround_target()`, `kmp_unset_affinity_mask_proc_target()`, `omp_destroy_lock_target()`, `omp_destroy_nest_lock_target()`, `omp_get_int_target()`, `omp_get_schedule_target()`, `omp_init_lock_target()`, `omp_init_nest_lock_target()`, `omp_set_int_target()`, `omp_set_lock_target()`, `omp_set_nest_lock_target()`, `omp_set_schedule_target()`, `omp_test_lock_target()`, `omp_test_nest_lock_target()`, `omp_unset_lock_target()`, and `omp_unset_nest_lock_target()`.

OFFLOAD_TARGET_ACQUIRE1 OFFLOAD_PREFIX(target.acquire1)

Acquire the target for offload (OpenMP).

Parameters

<i>device.number</i>	Device number or null if not specified.
<i>file</i>	Filename in which this offload occurred
<i>line</i>	Line number in the file where this offload occurred.

Definition at line 21 of file `compiler_if_host.h`.

7.8.3 Function Documentation

int OFFLOAD_CALL_COUNT ()

Definition at line 319 of file `compiler_if_host.cpp`.

```
int OFFLOAD_OFFLOAD ( OFFLOAD o, const char  name, int is_empty, int num_vars, VarDesc  vars,
VarDesc2  vars2, int num_waits, const void  waits, const void  signal, int entry_id = 0, const void
stack_addr = NULL )
```

Definition at line 284 of file `compiler_if_host.cpp`.

```
int OFFLOAD_OFFLOAD1 ( OFFLOAD o, const char  name, int is_empty, int num_vars, VarDesc  vars,
VarDesc2  vars2, int num_waits, const void  waits, const void  signal )
```

Definition at line 246 of file `compiler_if_host.cpp`.

Referenced by `OFFLOAD_OFFLOAD()`.

```
int OFFLOAD_OFFLOAD2 ( OFFLOAD o, const char name, int is_empty, int num_vars, VarDesc vars,
VarDesc2 vars2, int num_waits, const void waits, const void signal, int entry_id, const void
stack_addr )
```

Definition at line 264 of file compiler_if_host.cpp.

```
OFFLOAD OFFLOAD_TARGET_ACQUIRE ( TARGET_TYPE target_type, int target_number, int is_optional,
_Offload.status status, const char file, uint64_t line )
```

Definition at line 25 of file compiler_if_host.cpp.

```
OFFLOAD OFFLOAD_TARGET_ACQUIRE1 ( const int device_number, const char file, uint64_t line )
```

Definition at line 144 of file compiler_if_host.cpp.

7.9 compiler_if_target.cpp File Reference

```
#include "compiler_if_target.h"
```

Functions

- void [OFFLOAD_TARGET_ENTER](#) (OFFLOAD *ofld*, int *vars_total*, VarDesc *vars*, VarDesc2 *vars2*)
- void [OFFLOAD_TARGET_LEAVE](#) (OFFLOAD *ofld*)
- void [OFFLOAD_TARGET_MAIN](#) (void)

7.9.1 Function Documentation

```
void OFFLOAD_TARGET_ENTER ( OFFLOAD ofld, int vars_total, VarDesc vars, VarDesc2 vars2 )
```

Definition at line 13 of file compiler_if_target.cpp.

```
void OFFLOAD_TARGET_LEAVE ( OFFLOAD ofld )
```

Definition at line 26 of file compiler_if_target.cpp.

```
void OFFLOAD_TARGET_MAIN ( void )
```

Definition at line 34 of file compiler_if_target.cpp.

7.10 compiler_if_target.h File Reference

The interface between compiler-generated target code and runtime library.

```
#include "offload_target.h"
```

Macros

- #define [OFFLOAD_TARGET_ENTER](#) [OFFLOAD_PREFIX](#)(target_enter)
Fill in variable addresses using VarDesc array.
- #define [OFFLOAD_TARGET_LEAVE](#) [OFFLOAD_PREFIX](#)(target_leave)
Call back the runtime library to gather outputs using VarDesc array.
- #define [OFFLOAD_TARGET_MAIN](#) [OFFLOAD_PREFIX](#)(target_main)

Functions

- void [OFFLOAD_TARGET_ENTER](#) ([OFFLOAD](#) ofld, int var_desc_num, [VarDesc](#) var_desc, [VarDesc2](#) var_desc2)
- void [OFFLOAD_TARGET_LEAVE](#) ([OFFLOAD](#) ofld)
- void [OFFLOAD_TARGET_MAIN](#) (void)

7.10.1 Detailed Description

The interface between compiler-generated target code and runtime library.

Definition in file [compiler_if.target.h](#).

7.10.2 Macro Definition Documentation

OFFLOAD_TARGET_ENTER OFFLOAD_PREFIX(target_enter)

Fill in variable addresses using [VarDesc](#) array.

Then call back the runtime library to fetch data.

Parameters

<i>ofld</i>	Offload descriptor created by runtime.
<i>var_desc_num</i>	Number of variable descriptors.
<i>var_desc</i>	Pointer to VarDesc array.
<i>var_desc2</i>	Pointer to VarDesc2 array.

Definition at line 20 of file [compiler_if.target.h](#).

Referenced by [kmp_create_affinity_mask.lrb\(\)](#), [kmp_destroy_affinity_mask.lrb\(\)](#), [kmp_get_affinity.lrb\(\)](#), [kmp_get_affinity_mask_proc.lrb\(\)](#), [kmp_set_affinity.lrb\(\)](#), [kmp_set_affinity_mask_proc.lrb\(\)](#), [kmp_set_defaults.lrb\(\)](#), [kmp_set_library_serial.lrb\(\)](#), [kmp_set_library_throughput.lrb\(\)](#), [kmp_set_library_turnaround.lrb\(\)](#), [kmp_unset_affinity_mask_proc.lrb\(\)](#), [omp_destroy_lock.lrb\(\)](#), [omp_destroy_nest_lock.lrb\(\)](#), [omp_get_int_from_host\(\)](#), [omp_get_schedule.lrb\(\)](#), [omp_init_lock.lrb\(\)](#), [omp_init_nest_lock.lrb\(\)](#), [omp_send_int_to_host\(\)](#), [omp_set_lock.lrb\(\)](#), [omp_set_nest_lock.lrb\(\)](#), [omp_set_schedule.lrb\(\)](#), [omp_test_lock.lrb\(\)](#), [omp_test_nest_lock.lrb\(\)](#), [omp_unset_lock.lrb\(\)](#), and [omp_unset_nest_lock.lrb\(\)](#).

OFFLOAD_TARGET_LEAVE OFFLOAD_PREFIX(target_leave)

Call back the runtime library to gather outputs using [VarDesc](#) array.

Parameters

<i>ofld</i>	Offload descriptor created by OFFLOAD_TARGET_ACQUIRE .
-------------	--

Definition at line 21 of file [compiler_if.target.h](#).

Referenced by [kmp_create_affinity_mask.lrb\(\)](#), [kmp_destroy_affinity_mask.lrb\(\)](#), [kmp_get_affinity.lrb\(\)](#), [kmp_get_affinity_mask_proc.lrb\(\)](#), [kmp_set_affinity.lrb\(\)](#), [kmp_set_affinity_mask_proc.lrb\(\)](#), [kmp_set_defaults.lrb\(\)](#), [kmp_set_library_serial.lrb\(\)](#), [kmp_set_library_throughput.lrb\(\)](#), [kmp_set_library_turnaround.lrb\(\)](#), [kmp_unset_affinity_mask_proc.lrb\(\)](#), [omp_destroy_lock.lrb\(\)](#), [omp_destroy_nest_lock.lrb\(\)](#), [omp_get_int_from_host\(\)](#), [omp_get_schedule.lrb\(\)](#), [omp_init_lock.lrb\(\)](#), [omp_init_nest_lock.lrb\(\)](#), [omp_send_int_to_host\(\)](#), [omp_set_lock.lrb\(\)](#), [omp_set_nest_lock.lrb\(\)](#), [omp_set_schedule.lrb\(\)](#), [omp_test_lock.lrb\(\)](#), [omp_test_nest_lock.lrb\(\)](#), [omp_unset_lock.lrb\(\)](#), and [omp_unset_nest_lock.lrb\(\)](#).

#define OFFLOAD_TARGET_MAIN OFFLOAD_PREFIX(target_main)

Definition at line 22 of file [compiler_if.target.h](#).

Referenced by [main\(\)](#), and [MAIN_\(\)](#).

7.10.3 Function Documentation

void OFFLOAD_TARGET_ENTER (OFFLOAD *ofld*, int *var_desc_num*, [VarDesc](#) *var_desc*, [VarDesc2](#) *var_desc2*)

Definition at line 13 of file [compiler_if.target.cpp](#).

void OFFLOAD_TARGET_LEAVE (OFFLOAD ofld)

Definition at line 26 of file compiler.if.target.cpp.

void OFFLOAD_TARGET_MAIN (void)

Definition at line 34 of file compiler.if.target.cpp.

7.11 dv_util.cpp File Reference

```
#include "offload_common.h"
```

Functions

- bool [__dv_is_contiguous](#) (const [ArrDesc](#) dvp)
- bool [__dv_is_allocated](#) (const [ArrDesc](#) dvp)
- uint64_t [__dv_data_length](#) (const [ArrDesc](#) dvp)
- uint64_t [__dv_data_length](#) (const [ArrDesc](#) dvp, int64_t count)
- [CleanReadRanges](#) [init_read_ranges_dv](#) (const [ArrDesc](#) dvp)

7.11.1 Function Documentation

uint64_t __dv_data_length (const ArrDesc dvp)

Definition at line 38 of file dv_util.cpp.

Referenced by `OffloadDescriptor::setup_descriptors()`.

uint64_t __dv_data_length (const ArrDesc dvp, int64_t count)

Definition at line 54 of file dv_util.cpp.

bool __dv_is_allocated (const ArrDesc dvp)

Definition at line 33 of file dv_util.cpp.

Referenced by `OffloadDescriptor::setup_descriptors()`.

bool __dv_is_contiguous (const ArrDesc dvp)

Definition at line 13 of file dv_util.cpp.

Referenced by `OffloadDescriptor::setup_descriptors()`.

CleanReadRanges init_read_ranges_dv (const ArrDesc dvp)

Definition at line 65 of file dv_util.cpp.

Referenced by `OffloadDescriptor::setup_descriptors()`.

7.12 dv_util.h File Reference

```
#include <stdint.h>
```

Classes

- struct [DimDesc](#)
- struct [ArrDesc](#)

Macros

- `#define`

7.12.3 Function Documentation

uint64_t __dv_data_length (const ArrDesc *dvp*)

Definition at line 38 of file dv_util.cpp.

Referenced by OffloadDescriptor::setup_descriptors().

uint64_t __dv_data_length (const ArrDesc *dvp*, int64_t *nelems*)

Definition at line 54 of file dv_util.cpp.

bool __dv_is_allocated (const ArrDesc *dvp*)

Definition at line 33 of file dv_util.cpp.

Referenced by OffloadDescriptor::setup_descriptors().

bool __dv_is_contiguous (const ArrDesc *dvp*)

Definition at line 13 of file dv_util.cpp.

Referenced by OffloadDescriptor::setup_descriptors().

CeanReadRanges init_read_ranges_dv (const ArrDesc *dvp*)

Definition at line 65 of file dv_util.cpp.

Referenced by OffloadDescriptor::setup_descriptors().

7.13 liboffload_error.c File Reference

```
#include <stdio.h>
#include <stdarg.h>
#include "liboffload_msg.h"
#include "liboffload_error_codes.h"
```

Macros

- #define [va_copy](#)(dst, src) ((dst) = (src))

Functions

- void [__liboffload_error_support](#) (error_types input_tag,...)
- char const [report_get_message_str](#) (error_types input_tag)
- char const [report_get_host_stage_str](#) (int i)
- char const [report_get_target_stage_str](#) (int i)

7.13.1 Macro Definition Documentation

#define [va_copy](#)(*dst*, *src*) ((dst) = (src))

Definition at line 14 of file liboffload_error.c.

7.13.2 Function Documentation

void [__liboffload_error_support](#) (error_types *input_tag*, ...)

Definition at line 25 of file liboffload_error.c.

char const [report_get_host_stage_str](#) (int *i*)

Definition at line 361 of file liboffload_error.c.

char const report_get_message_str (error_types input_tag)

Definition at line 242 of file liboffload_error.c.

Referenced by `__offload_init_library_once()`, `__offload_target_init()`, `offload_signal()`, `offload_stage()`, and `offload_stage_print()`.

char const report_get_target_stage_str (int i)

Definition at line 422 of file liboffload_error.c.

7.14 liboffload_error_codes.h File Reference

```
#include <stdarg.h>
#include <stdlib.h>
#include <stdio.h>
```

Macros

- `#define test_msg_cat(nm, msg)`
- `#define test_msg_cat1(nm, msg,...)`
- `#define LIBOFFLOAD_ERROR __liboffload_error_support`
- `#define LIBOFFLOAD_ABORT abort()`

Enumerations

- enum `error_types` *f*
 - `c_device_is_not_available` = 0, `c_invalid_device_number`, `c_offload1`, `c_unknown_var_type`, `c_send_func_ptr`, `c_receive_func_ptr`, `c_offload_malloc`, `c_invalid_env_var_value`, `c_invalid_env_var_int_value`, `c_invalid_env_report_value`, `c_offload_signaled1`, `c_offload_signaled2`, `c_myotarget_checkresult`, `c_myowrapper_checkresult`, `c_offload_descriptor_offload`, `c_merge_var_descs1`, `c_merge_var_descs2`, `c_mic_parse_env_var_list1`, `c_mic_parse_env_var_list2`, `c_mic_process_exit_ret`, `c_mic_process_exit_sig`, `c_mic_process_exit`, `c_mic_init3`, `c_mic_init4`, `c_mic_init5`, `c_mic_init6`, `c_no_static_var_data`, `c_no_ptr_data`, `c_get_engine_handle`, `c_get_engine_index`, `c_process_create`, `c_process_get_func_handles`, `c_process_wait_shutdown`, `c_process_proxy_flush`, `c_load_library`, `c_pipeline_create`, `c_pipeline_run_func`, `c_pipeline_start_run_funcs`, `c_buf_create`, `c_buf_create_out_of_mem`, `c_buf_create_from_mem`, `c_buf_destroy`, `c_buf_map`, `c_buf_unmap`, `c_buf_read`, `c_buf_write`, `c_buf_copy`, `c_buf_get_address`, `c_buf_add_ref`, `c_buf_release_ref`, `c_buf_set_state`, `c_event_wait`, `c_zero_or_neg_ptr_len`, `c_zero_or_neg_transfer_size`, `c_bad_ptr_mem_range`, `c_different_src_and_dstn_sizes`, `c_ranges_dont_match`, `c_destination_is_over`, `c_slice_of_noncont_array`, `c_non_contiguous_dope_vector`, `c_pointer_array_mismatch`, `c_omp_invalid_device_num_env`, `c_omp_invalid_device_num`, `c_unknown_binary_type`, `c_multiple_target_exes`, `c_no_target_exe`, `c_report_host`, `c_report_target`, `c_report_title`, `c_report_from_file`, `c_report_file`, `c_report_line`, `c_report_tag`, `c_report_seconds`, `c_report_bytes`, `c_report_mic`, `c_report_cpu_time`, `c_report_cpu_to_mic_data`, `c_report_mic_time`, `c_report_mic_to_cpu_data`, `c_report_unknown_timer_node`, `c_report_unknown_trace_node`, `c_report_offload`, `c_report_w_tag`, `c_report_state`, `c_report_start`, `c_report_init`, `c_report_logical_card`, `c_report_physical_card`, `c_report_register`, `c_report_init_func`, `c_report_create_buf_host`, `c_report_create_buf_mic`, `c_report_send_pointer_data`, `c_report_sent_pointer_data`, `c_report_gather_copyin_data`, `c_report_copyin_data`, `c_report_state_signal`, `c_report_signal`, `c_report_wait`, `c_report_compute`, `c_report_receive_pointer_data`, `c_report_received_pointer_data`, `c_report_start_target_func`, `c_report_var`, `c_report_scatter_copyin_data`, `c_report_gather_copyout_data`, `c_report_scatter_copyout_data`, `c_report_copyout_data`, `c_report_unregister`, `c_report_destroy`, `c_report_myoinit`, `c_report_myoregister`, `c_report_myofini`, `c_report_mic_myshared`, `c_report_mic_myofptr`, `c_report_myosharedmalloc`, `c_report_myosharedfree`, `c_report_myosharedalignedmalloc`, `c_report_myosharedalignedfree`,

- `c_report_myoacquire`, `c_report_myorelease`, `c_coipipe_max_number` *g*
- enum `OffloadHostPhase` *f*
 - `c_offload_host_total_offload` = 0, `c_offload_host_initialize`, `c_offload_host_target_acquire`, `c_offload_host_wait_deps`,
 - `c_offload_host_setup_buffers`, `c_offload_host_alloc_buffers`, `c_offload_host_setup_misc_data`, `c_offload_host_alloc_data_buffer`,
 - `c_offload_host_send_pointers`, `c_offload_host_gather_inputs`, `c_offload_host_map_in_data_buffer`, `c_offload_host_unmap_in_data_buffer`,
 - `c_offload_host_start_compute`, `c_offload_host_wait_compute`, `c_offload_host_start_buffers_reads`, `c_offload_host_scatter_outputs`,
 - `c_offload_host_map_out_data_buffer`, `c_offload_host_unmap_out_data_buffer`, `c_offload_host_wait_buffers_reads`,
 - `c_offload_host_destroy_buffers`,
 - `c_offload_host_max_phase` *g*
- enum `OffloadTargetPhase` *f*
 - `c_offload_target_total_time` = 0, `c_offload_target_descriptor_setup`, `c_offload_target_func_lookup`, `c_offload_target_func_time`,
 - `c_offload_target_scatter_inputs`, `c_offload_target_add_buffer_refs`, `c_offload_target_compute`, `c_offload_target_gather_outputs`,
 - `c_offload_target_release_buffer_refs`, `c_offload_target_max_phase` *g*

Functions

- void `__liboffload_error_support` (`error_types` input_tag,...)
- void `__liboffload_report_support` (`error_types` input_tag,...)
- char const `offload_get_message_str` (int msgCode)
- char const `report_get_message_str` (`error_types` input_tag)
- char const `report_get_host_stage_str` (int i)
- char const `report_get_target_stage_str` (int i)
- void `write_message` (FILE file, int msgCode, va_list args.p)

7.14.1 Macro Definition Documentation

```
#define LIBOFFLOAD_ABORT abort()
```

Definition at line 272 of file `liboffload_error_codes.h`.

Referenced by `_Offload_signaled()`, `OffloadDescriptor::gen_var_descs_for_pointer_array()`, `Engine::get`

```
#define test_msg_cat1( nm, msg, ... )
```

Value:

```
fprintf(stderr, "nt TEST for %s\n", nm);
liboffload_error_support(msg, __VA_ARGS__);
```

Definition at line 259 of file liboffload_error_codes.h.

7.14.2 Enumeration Type Documentation

enum error_types

Enumerator

- c_device_is_not_available*
- c_invalid_device_number*
- c_offload1*
- c_unknown_var_type*
- c_send_func_ptr*
- c_receive_func_ptr*
- c_offload_malloc*
- c_invalid_env_var_value*
- c_invalid_env_var_int_value*
- c_invalid_env_report_value*
- c_offload_signaled1*
- c_offload_signaled2*
- c_myotarget_checkresult*
- c_myowrapper_checkresult*
- c_offload_descriptor_offload*
- c_merge_var_descs1*
- c_merge_var_descs2*
- c_mic_parse_env_var_list1*
- c_mic_parse_env_var_list2*
- c_mic_process_exit_ret*
- c_mic_process_exit_sig*
- c_mic_process_exit*
- c_mic_init3*
- c_mic_init4*
- c_mic_init5*
- c_mic_init6*
- c_no_static_var_data*
- c_no_ptr_data*
- c_get_engine_handle*
- c_get_engine_index*
- c_process_create*
- c_process_get_func_handles*
- c_process_wait_shutdown*
- c_process_proxy_flush*
- c_load_library*

c.pipeline.create
c.pipeline.run.func
c.pipeline.start_run.funcs
c.buf.create
c.buf.create.out.of.mem
c.buf.create.from.mem
c.buf.destroy
c.buf.map
c.buf.unmap
c.buf.read
c.buf.write
c.buf.copy
c.buf.get.address
c.buf.add.ref
c.buf.release.ref
c.buf.set.state
c.event.wait
c.zero.or.neg.ptr.len
c.zero.or.neg.transfer.size
c.bad.ptr.mem.range
c.different.src.and.dstn.sizes
c.ranges.dont.match
c.destination.is.over
c.slice.of.noncont.array
c.non.contiguous.dope.vector
c.pointer.array.mismatch
c.omp.invalid.device.num.env
c.omp.invalid.device.num
c.unknown.binary.type
c.multiple.target.exes
c.no.target.exe
c.report.host
c.report.target
c.report.title
c.report.from.file
c.report.file
c.report.line
c.report.tag
c.report.seconds
c.report.bytes
c.report.mic
c.report.cpu.time
c.report.cpu.to.mic.data
c.report.mic.time
c.report.mic.to.cpu.data

c.report.unknown.timer.node
c.report.unknown.trace.node
c.report.offload
c.report.w.tag
c.report.state
c.report.start
c.report.init
c.report.logical.card
c.report.physical.card
c.report.register
c.report.init.func
c.report.create.buf.host
c.report.create.buf.mic
c.report.send.pointer.data
c.report.sent.pointer.data
c.report.gather.copyin.data
c.report.copyin.data
c.report.state.signal
c.report.signal
c.report.wait
c.report.compute
c.report.receive.pointer.data
c.report.received.pointer.data
c.report.start.target.func
c.report.var
c.report.scatter.copyin.data
c.report.gather.copyout.data
c.report.scatter.copyout.data
c.report.copyout.data
c.report.unregister
c.report.destroy
c.report.myoinit
c.report.myoregister
c.report.myofini
c.report.mic.myo.shared
c.report.mic.myo.fptr
c.report.myosharedmalloc
c.report.myosharedfree
c.report.myosharedalignedmalloc
c.report.myosharedalignedfree
c.report.myoacquire
c.report.myorelease
c.coipipe.max.number

Definition at line 17 of file liboffload_error_codes.h.

enum OffloadHostPhase

Enumerator

c.offload_host.total.offload
c.offload_host.initialize
c.offload_host.target.acquire
c.offload_host.wait.deps
c.offload_host.setup.buffers
c.offload_host.alloc.buffers
c.offload_host.setup.misc.data
c.offload_host.alloc.data.buffer
c.offload_host.send.pointers
c.offload_host.gather.inputs
c.offload_host.map.in.data.buffer
c.offload_host.unmap.in.data.buffer
c.offload_host.start.compute
c.offload_host.wait.compute
c.offload_host.start.buffers.reads
c.offload_host.scatter.outputs
c.offload_host.map.out.data.buffer
c.offload_host.unmap.out.data.buffer
c.offload_host.wait.buffers.reads
c.offload_host.destroy.buffers
c.offload_host.max.phase

Definition at line 144 of file liboffload_error_codes.h.

enum OffloadTargetPhase

Enumerator

c.offload_target.total.time
c.offload_target.descriptor.setup
c.offload_target.func.lookup
c.offload_target.func.time
c.offload_target.scatter.inputs
c.offload_target.add.buffer.refs
c.offload_target.compute
c.offload_target.gather.outputs
c.offload_target.release.buffer.refs
c.offload_target.max.phase

Definition at line 210 of file liboffload_error_codes.h.

7.14.3 Function Documentation

void `_liboffload_error_support` (*error.types* *input.tag*, ...)

Definition at line 25 of file liboffload_error.c.

void `__liboffload_report_support` (*error_types input_tag*, ...)

char const `offload_get_message_str` (*int msgCode*)

Definition at line 33 of file `liboffload_msg.c`.

Referenced by `report_get_host_stage_str()`, `report_get_message_str()`, and `report_get_target_stage_str()`.

char const `report_get_host_stage_str` (*int i*)

Definition at line 361 of file `liboffload_error.c`.

char const `report_get_message_str` (*error_types input_tag*)

Definition at line 242 of file `liboffload_error.c`.

Referenced by `__offload_init_library_once()`, `__offload_target_init()`, `offload_signal()`, `offload_stage()`, and `offload_stage_print()`.

char const `report_get_target_stage_str` (*int i*)

Definition at line 422 of file `liboffload_error.c`.

void `write_message` (*FILE file*, *int msgCode*, *va_list args_p*)

Referenced by `__liboffload_error_support()`.

7.15 liboffload_msg.c File Reference

```
#include <stdio.h>
```

```
#include "liboffload_msg.h"
```

Macros

- `#define DYNART_STDERR_PUTS(__message_text...) fputs((__message_text__),stderr)`

Functions

- `void write_message` (*FILE file*, *int msgCode*)
- `char const offload_get_message_str` (*int msgCode*)

7.15.1 Macro Definition Documentation

```
#define DYNART_STDERR_PUTS( __message_text... ) fputs((__message_text__),stderr)
```

Definition at line 21 of file `liboffload_msg.c`.

7.15.2 Function Documentation

char const `offload_get_message_str` (*int msgCode*)

Definition at line 33 of file `liboffload_msg.c`.

Referenced by `report_get_host_stage_str()`, `report_get_message_str()`, and `report_get_target_stage_str()`.

void `write_message` (*FILE file*, *int msgCode*)

Definition at line 28 of file `liboffload_msg.c`.

7.16 liboffload_msg.h File Reference

Macros

- #define `MESSAGE_TABLE_NAME` `_liboffload_message_table`

Enumerations

- enum `f`
`__dummy__ = 0, msg_c.device_is_not_available, msg_c.invalid_device_number, msg_c.send_func_ptr,`
`msg_c.receive_func_ptr, msg_c.offload_malloc, msg_c.offload1, msg_c.unknown_var_type,`
`msg_c.invalid_env_var_value, msg_c.invalid_env_var_int_value, msg_c.invalid_env_report_value, msg_c.offload-`
`_signaled1,`
`msg_c.offload_signaled2, msg_c.myowrapper_checkresult, msg_c.myotarget_checkresult, msg_c.offload-`
`descriptor_offload,`
`msg_c.merge_var_descs1, msg_c.merge_var_descs2, msg_c.mic_parse_env_var_list1, msg_c.mic_parse_env-`
`var_list2,`
`msg_c.mic_process_exit_ret, msg_c.mic_process_exit_sig, msg_c.mic_process_exit, msg_c.mic_init3,`
`msg_c.mic_init4, msg_c.mic_init5, msg_c.mic_init6, msg_c.no_static_var_data,`
`msg_c.no_ptr_data, msg_c.get_engine_handle, msg_c.get_engine_index, msg_c.process_create,`
`msg_c.process_get_func_handles, msg_c.process_wait_shutdown, msg_c.process_proxy_flush, msg_c.load-`
`library,`
`msg_c.pipeline_create, msg_c.pipeline_run_func, msg_c.pipeline_start_run_funcs, msg_c.buf_create,`
`msg_c.buf_create_out_of_mem, msg_c.buf_create_from_mem, msg_c.buf_destroy, msg_c.buf_map,`
`msg_c.buf_unmap, msg_c.buf_read, msg_c.buf_write, msg_c.buf_copy,`
`msg_c.buf_get_address, msg_c.buf_add_ref, msg_c.buf_release_ref, msg_c.buf_set_state,`
`msg_c.event_wait, msg_c.zero_or_neg_ptr_len, msg_c.zero_or_neg_transfer_size, msg_c.bad_ptr_mem_range,`
`msg_c.different_src_and_dstn_sizes, msg_c.non_contiguous_dope_vector, msg_c.omp_invalid_device_num-`
`env, msg_c.omp_invalid_device_num,`
`msg_c.unknown_binary_type, msg_c.multiple_target_exes, msg_c.no_target_exe, msg_c.report_unknown-`
`timer_node,`
`msg_c.report_unknown_trace_node, msg_c.report_host, msg_c.report_mic, msg_c.report_title,`
`msg_c.report_seconds, msg_c.report_bytes, msg_c.report_cpu_time, msg_c.report_mic_time,`
`msg_c.report_tag, msg_c.report_from_file, msg_c.report_file, msg_c.report_line,`
`msg_c.report_cpu_to_mic_data, msg_c.report_mic_to_cpu_data, msg_c.report_offload, msg_c.report_w_tag,`
`msg_c.report_state, msg_c.report_start, msg_c.report_init, msg_c.report_logical_card,`
`msg_c.report_physical_card, msg_c.report_register, msg_c.report_init_func, msg_c.report_create_buf_host,`
`msg_c.report_create_buf_mic, msg_c.report_send_pointer_data, msg_c.report_sent_pointer_data, msg_c-`
`report_gather_copyin_data,`
`msg_c.report_copyin_data, msg_c.report_state_signal, msg_c.report_signal, msg_c.report_wait,`
`msg_c.report_compute, msg_c.report_receive_pointer_data, msg_c.report_received_pointer_data, msg_c-`
`report_start_target_func,`
`msg_c.report_var, msg_c.report_scatter_copyin_data, msg_c.report_gather_copyout_data, msg_c.report-`
`scatter_copyout_data,`
`msg_c.report_copyout_data, msg_c.report_unregister, msg_c.report_destroy, msg_c.report_myoinit,`
`msg_c.report_myoregister, msg_c.report_myofini, msg_c.report_mic_myo_shared, msg_c.report_mic_myo_fptr,`
`msg_c.report_myosharedmalloc, msg_c.report_myosharedfree, msg_c.report_myosharedalignedmalloc, msg-`
`_c_report_myosharedalignedfree,`
`msg_c.report_myoacquire, msg_c.report_myorelease, msg_c.report_host_total_offload_time, msg_c.report-`
`host_initialize,`
`msg_c.report_host_target_acquire, msg_c.report_host_wait_deps, msg_c.report_host_setup_buffers, msg_c-`
`report_host_alloc_buffers,`
`msg_c.report_host_setup_misc_data, msg_c.report_host_alloc_data_buffer, msg_c.report_host_send_pointers,`
`msg_c.report_host_gather_inputs,`
`msg_c.report_host_map_in_data_buffer, msg_c.report_host_unmap_in_data_buffer, msg_c.report_host_start-`
`compute, msg_c.report_host_wait_compute,`
`msg_c.report_host_start_buffers_reads, msg_c.report_host_scatter_outputs, msg_c.report_host_map_out_data-`
`buffer, msg_c.report_host_unmap_out_data_buffer,`
`msg_c.report_host_wait_buffers_reads, msg_c.report_host_destroy_buffers, msg_c.report_target_total_time,`

```

msg_c_report_target_descriptor_setup,
msg_c_report_target_func_lookup, msg_c_report_target_func_time, msg_c_report_target_scatter_inputs, msg_c-
report_target_add_buffer_refs,
msg_c_report_target_compute, msg_c_report_target_gather_outputs, msg_c_report_target_release_buffer_refs,
msg_c_coi_pipeline_max_number,
msg_c_ranges_dont_match, msg_c_destination_is_over, msg_c_slice_of_noncont_array, msg_c_pointer_array-
mismatch,
lastMsg = 152, firstMsg = 1 g

```

Variables

- static char const `MESSAGE_TABLE_NAME` []

7.16.1 Macro Definition Documentation

```
#define MESSAGE_TABLE_NAME __liboffload_message_table
```

Definition at line 170 of file liboffload_msg.h.

Referenced by `offload_get_message_str()`, and `write_message()`.

7.16.2 Enumeration Type Documentation

anonymous enum

Enumerator

```

__dummy__
msg_c_device_is_not_available
msg_c_invalid_device_number
msg_c_send_func_ptr
msg_c_receive_func_ptr
msg_c_offload_malloc
msg_c_offload1
msg_c_unknown_var_type
msg_c_invalid_env_var_value
msg_c_invalid_env_var_int_value
msg_c_invalid_env_report_value
msg_c_offload_signaled1
msg_c_offload_signaled2
msg_c_myowrapper_checkresult
msg_c_myotarget_checkresult
msg_c_offload_descriptor_offload
msg_c_merge_var_descs1
msg_c_merge_var_descs2
msg_c_mic_parse_env_var_list1
msg_c_mic_parse_env_var_list2
msg_c_mic_process_exit_ret
msg_c_mic_process_exit_sig
msg_c_mic_process_exit
msg_c_mic_init3
msg_c_mic_init4
msg_c_mic_init5

```

msg_c_mic_init6

msg_c_no_static_var_data

msg_c_no_ptr_data

msg_c_get_engine_handle

msg_c_get_engine_index

msg_c_process_create

msg_c_process_get_func_handles

msg_c_process_wait_shutdown

msg_

msg_c.report_mic_time
msg_c.report_tag
msg_c.report_from_file
msg_c.report_file
msg_c.report_line
msg_c.report_cpu_to_mic_data
msg_c.report_mic_to_cpu_data
msg_c.report_offload
msg_c.report_w_tag
msg_c.report_state
msg_c.report_start
msg_c.report_init
msg_c.report_logical_card
msg_c.report_physical_card
msg_c.report_register
msg_c.report_init_func
msg_c.report_create_buf_host
msg_c.report_create_buf_mic
msg_c.report_send_pointer_data
msg_c.report_sent_pointer_data
msg_c.report_gather_copyin_data
msg_c.report_copyin_data
msg_c.report_state_signal
msg_c.report_signal
msg_c.report_wait
msg_c.report_compute
msg_c.report_receive_pointer_data
msg_c.report_received_pointer_data
msg_c.report_start_target_func
msg_c.report_var
msg_c.report_scatter_copyin_data
msg_c.report_gather_copyout_data
msg_c.report_scatter_copyout_data
msg_c.report_copyout_data
msg_c.report_unregister
msg_c.report_destroy
msg_c.report_myoinit
msg_c.report_myoregister
msg_c.report_myofini
msg_c.report_mic_myo_shared
msg_c.report_mic_myo_fptr
msg_c.report_myosharedmalloc
msg_c.report_myosharedfree
msg_c.report_myosharedalignedmalloc
msg_c.report_myosharedalignedfree

msg_c.report.myoacquire
msg_c.report.myorelease
msg_c.report.host.total.offload.time
msg_c.report.host.initialize
msg_c.report.host.target.acquire
msg_c.report.host.wait.deps
msg_c.report.host.setup.buffers
msg_c.report.host.alloc.buffers
msg_c.report.host.setup.misc.data
msg_c.report.host.alloc.data.buffer
msg_c.report.host.send.pointers
msg_c.report.host.gather.inputs
msg_c.report.host.map.in.data.buffer
msg_c.report.host.unmap.in.data.buffer
msg_c.report.host.start.compute
msg_c.report.host.wait.compute
msg_c.report.host.start.buffers.reads
msg_c.report.host.scatter.outputs
msg_c.report.host.map.out.data.buffer
msg_c.report.host.unmap.out.data.buffer
msg_c.report.host.wait.buffers.reads
msg_c.report.host.destroy.buffers
msg_c.report.target.total.time
msg_c.report.target.descriptor.setup
msg_c.report.target.func.lookup
msg_c.report.target.func.time
msg_c.report.target.scatter.inputs
msg_c.report.target.add.buffer.refs
msg_c.report.target.compute
msg_c.report.target.gather.outputs
msg_c.report.target.release.buffer.refs
msg_c.coi.pipeline.max.number
msg_c.ranges.dont.match
msg_c.destination.is.over
msg_c.slice.of.noncont.array
msg_c.pointer.array.mismatch
lastMsg
firstMsg

Definition at line 11 of file liboffload_msg.h.

7.16.3 Variable Documentation

`char const MESSAGE_TABLE_NAME[]` `[static]`

Definition at line 173 of file liboffload_msg.h.

7.17 mic_lib.f90 File Reference

Data Types

- module [mic_lib](#)
- type [mic_lib::offload_status](#)
- interface [mic_lib::offload_number_of_devices](#)
- interface [mic_lib::offload_signaled](#)
- interface [mic_lib::offload_report](#)
- interface [mic_lib::offload_get_device_number](#)
- interface [mic_lib::offload_get_physical_device_number](#)
- interface [mic_lib::omp_set_num_threads_target](#)
- interface [mic_lib::omp_get_max_threads_target](#)
- interface [mic_lib::omp_get_num_procs_target](#)
- interface [mic_lib::omp_set_dynamic_target](#)
- interface [mic_lib::omp_get_dynamic_target](#)
- interface [mic_lib::omp_set_nested_target](#)
- interface [mic_lib::omp_get_nested_target](#)
- interface [mic](#)

Classes

- struct `_Offload_status`
- struct `omp_lock_target_t`
- struct `omp_nest_lock_target_t`
- struct `kmp_affinity_mask_target_t`

Macros

- #define `TARGET_ATTRIBUTE` `__declspec(target(mic))`
- #define `DEFAULT_TARGET_TYPE` `TARGET_MIC`
- #define `DEFAULT_TARGET_NUMBER` `0`
- #define `OFFLOAD_STATUS_INIT(x)` `((x).result = OFFLOAD_DISABLED)`
- #define `OFFLOAD_STATUS_INITIALIZER` `f OFFLOAD_DISABLED, -1, 0, 0 g`

Typedefs

- typedef enum `TARGET_TYPE` `TARGET_TYPE`

Enumerations

- enum `TARGET_TYPE` `f TARGET_NONE, TARGET_HOST, TARGET_MIC g`
- enum `_Offload_result` `f`
`OFFLOAD_SUCCESS = 0, OFFLOAD_DISABLED, OFFLOAD_UNAVAILABLE, OFFLOAD_OUT_OF_MEMORY,`
`OFFLOAD_PROCESS_DIED, OFFLOAD_ERROR g`

Functions

- int `_Offload_number_of_devices` (void)
- int `_Offload_get_device_number` (void)
- int `_Offload_get_physical_device_number` (void)
- void `_Offload_shared_malloc` (size_t size)
- void `_Offload_shared_free` (void ptr)
- void `_Offload_shared_aligned_malloc` (size_t size, size_t align)
- void `_Offload_shared_aligned_free` (void ptr)
- int `_Offload_signaled` (int index, void signal)
- void `_Offload_report` (int val)
- void `omp_set_default_device` (int num)
- int `omp_get_default_device` (void)
- int `omp_get_num_devices` (void)
- void `omp_set_num_threads_target` (TARGET_TYPE target_type, int target_number, int num_threads)
- int `omp_get_max_threads_target` (TARGET_TYPE target_type, int target_number)
- int `omp_get_num_procs_target` (TARGET_TYPE target_type, int target_number)
- void `omp_set_dynamic_target` (TARGET_TYPE target_type, int target_number, int num_threads)
- int `omp_get_dynamic_target` (TARGET_TYPE target_type, int target_number)
- void `omp_set_nested_target` (TARGET_TYPE target_type, int target_number, int nested)
- int `omp_get_nested_target` (TARGET_TYPE target_type, int target_number)
- void `omp_set_schedule_target` (TARGET_TYPE target_type, int target_number, omp_sched_t kind, int modifier)
- void `omp_get_schedule_target` (TARGET_TYPE target_type, int target_number, omp_sched_t kind, int modifier)
- void `omp_init_lock_target` (TARGET_TYPE target_type, int target_number, `omp_lock_target_t` lock)
- void `omp_destroy_lock_target` (TARGET_TYPE target_type, int target_number, `omp_lock_target_t` lock)
- void `omp_set_lock_target` (TARGET_TYPE target_type, int target_number, `omp_lock_target_t` lock)
- void `omp_unset_lock_target` (TARGET_TYPE target_type, int target_number, `omp_lock_target_t` lock)
- int `omp_test_lock_target` (TARGET_TYPE target_type, int target_number, `omp_lock_target_t` lock)

- void `omp_init_nest_lock_target` (`TARGET_TYPE` target_type, int target_number, `omp_nest_lock_target_t` lock)
- void `omp_destroy_nest_lock_target` (`TARGET_TYPE` target_type, int target_number, `omp_nest_lock_target_t` lock)
- void `omp_set_nest_lock_target` (`TARGET_TYPE` target_type, int target_number, `omp_nest_lock_target_t` lock)
- void `omp_unset_nest_lock` - -

target (TARGET

type target target (TARGET

ETq1 0 0 1 170.43420253 cm[]0 d 0 0.398 w 0 0 m 2.69 0 l SGBT/F45 8.9663 Tf 7327314202355 Td [(target)]T 0 g 0 G [-278(())T 0 0 1

finit(y)]Te ETq1 0 0 141306646448.5012 cm[]0 d 0 0.398 w 0 0 m 2.69 0 l SGBT/F45 8.9663 Tf416.354 448.3028 Td [mas(k)]T ETq1 0 0 14587.3234

target (TARGET

lock

target (TARGET

number, int

locksize

target (TARGET

target (TARGET

destroy

ETq1 0 0 1 170.43420253 cm[]0 d 0 0.398 w 0 0 m 2.69 0 l SGBT/F45 8.9663 Tf 7327314202355 Td [(target)]T 0 g 0 G [-278(())T 0 0 1

7.18.2 Typedef Documentation

`typedef enum TARGET_TYPE TARGET_TYPE`

7.18.3 Enumeration Type Documentation

`enum _Offload_result`

Enumerator

OFFLOAD_SUCCESS
OFFLOAD_DISABLED
OFFLOAD_UNAVAILABLE
OFFLOAD_OUT_OF_MEMORY
OFFLOAD_PROCESS_DIED
OFFLOAD_ERROR

Definition at line 53 of file offload.h.

`enum TARGET_TYPE`

Enumerator

TARGET_NONE
TARGET_HOST
TARGET_MIC

Definition at line 34 of file offload.h.

7.18.4 Function Documentation

`int _Offload_get_device_number (void)`

Definition at line 4308 of file offload_host.cpp.

`int _Offload_get_physical_device_number (void)`

Definition at line 4313 of file offload_host.cpp.

`int _Offload_number_of_devices (void)`

Definition at line 4302 of file offload_host.cpp.

`void _Offload_report (int val)`

Definition at line 4339 of file offload_host.cpp.

`void _Offload_shared_aligned_free (void ptr)`

Definition at line 693 of file offload_myo_host.cpp.

`void _Offload_shared_aligned_malloc (size_t size, size_t align)`

Definition at line 678 of file offload_myo_host.cpp.

`void _Offload_shared_free (void ptr)`

Definition at line 666 of file offload_myo_host.cpp.

Referenced by `_intel_cilk_for_32_offload()`, and `_intel_cilk_for_64_offload()`.

void _Offload_shared_malloc (size_t size)

Definition at line 654 of file offload_myo_host.cpp.

Referenced by `_intel_cilk_for_32_offload()`, and `_intel_cilk_for_64_offload()`.

int _Offload_signaled (int index, void signal)

Definition at line 4318 of file offload_host.cpp.

void kmp_create_affinity_mask_target (TARGET_TYPE target_type, int target_number, kmp_affinity_mask_target_t mask)

Definition at line 609 of file offload_omp_host.cpp.

void kmp_destroy_affinity_mask_target (TARGET_TYPE target_type, int target_number, kmp_affinity_mask_target_t mask)

Definition at line 632 of file offload_omp_host.cpp.

int kmp_get_affinity_mask_proc_target (TARGET_TYPE target_type, int target_number, int proc, kmp_affinity_mask_target_t mask)

Definition at line 812 of file offload_omp_host.cpp.

int kmp_get_affinity_max_proc_target (TARGET_TYPE target_type, int target_number)

Definition at line 721 of file offload_omp_host.cpp.

int kmp_get_affinity_target (TARGET_TYPE target_type, int target_number, kmp_affinity_mask_target_t mask)

Definition at line 688 of file offload_omp_host.cpp.

int kmp_get_blocktime_target (TARGET_TYPE target_type, int target_number)

Definition at line 517 of file offload_omp_host.cpp.

int kmp_get_library_target (TARGET_TYPE target_type, int target_number)

Definition at line 575 of file offload_omp_host.cpp.

size_t kmp_get_stacksize_s_target (TARGET_TYPE target_type, int target_number)

Definition at line 498 of file offload_omp_host.cpp.

int kmp_get_stacksize_target (TARGET_TYPE target_type, int target_number)

Definition at line 479 of file offload_omp_host.cpp.

int kmp_set_affinity_mask_proc_target (TARGET_TYPE target_type, int target_number, int proc, kmp_affinity_mask_target_t mask)

Definition at line 730 of file offload_omp_host.cpp.

int kmp_set_affinity_target (TARGET_TYPE target_type, int target_number, kmp_affinity_mask_target_t mask)

Definition at line 655 of file offload_omp_host.cpp.

void kmp_set_blocktime_target (TARGET_TYPE *target_type*, int *target_number*, int *time*)

Definition at line 507 of file offload_omp_host.cpp.

void kmp_set_defaults_target (TARGET_TYPE *target_type*, int *target_number*, char const *defaults*)

Definition at line 584 of file offload_omp_host.cpp.

void kmp_set_library_serial_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 526 of file offload_omp_host.cpp.

void kmp_set_library_target (TARGET_TYPE *target_type*, int *target_number*, int *mode*)

Definition at line 565 of file offload_omp_host.cpp.

void kmp_set_library_throughput_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 552 of file offload_omp_host.cpp.

void kmp_set_library_turnaround_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 539 of file offload_omp_host.cpp.

void kmp_set_stacksize_s_target (TARGET_TYPE *target_type*, int *target_number*, size_t *size*)

Definition at line 488 of file offload_omp_host.cpp.

void kmp_set_stacksize_target (TARGET_TYPE *target_type*, int *target_number*, int *size*)

Definition at line 469 of file offload_omp_host.cpp.

**int kmp_unset_affinity_mask_proc_target (TARGET_TYPE *target_type*, int *target_number*, int *proc*,
kmp_affinity_mask_target_t *mask*)**

Definition at line 771 of file offload_omp_host.cpp.

void omp_destroy_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_lock_target_t *lock*)

Definition at line 238 of file offload_omp_host.cpp.

**void omp_destroy_nest_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_nest_lock_target_t
lock)**

Definition at line 365 of file offload_omp_host.cpp.

int omp_get_default_device (void)

Definition at line 24 of file offload_omp_host.cpp.

int omp_get_dynamic_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 123 of file offload_omp_host.cpp.

int omp_get_max_threads_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 95 of file offload_omp_host.cpp.

int omp_get_nested_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 142 of file offload_omp_host.cpp.

int omp_get_num_devices (void)

Definition at line 29 of file offload_omp_host.cpp.

int omp_get_num_procs_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 104 of file offload_omp_host.cpp.

void omp_get_schedule_target (TARGET_TYPE *target_type*, int *target_number*, omp_sched.t *kind*, int *modifier*)

Definition at line 182 of file offload_omp_host.cpp.

void omp_init_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_lock_target.t *lock*)

Definition at line 215 of file offload_omp_host.cpp.

void omp_init_nest_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_nest_lock_target.t *lock*)

Definition at line 342 of file offload_omp_host.cpp.

void omp_set_default_device (int *num*)

Definition at line 17 of file offload_omp_host.cpp.

void omp_set_dynamic_target (TARGET_TYPE *target_type*, int *target_number*, int *num_threads*)

Definition at line 113 of file offload_omp_host.cpp.

void omp_set_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_lock_target.t *lock*)

Definition at line 261 of file offload_omp_host.cpp.

void omp_set_nest_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_nest_lock_target.t *lock*)

Definition at line 388 of file offload_omp_host.cpp.

void omp_set_nested_target (TARGET_TYPE *target_type*, int *target_number*, int *nested*)

Definition at line 132 of file offload_omp_host.cpp.

void omp_set_num_threads_target (TARGET_TYPE *target_type*, int *target_number*, int *num_threads*)

Definition at line 85 of file offload_omp_host.cpp.

void omp_set_schedule_target (TARGET_TYPE *target_type*, int *target_number*, omp_sched.t *kind*, int *modifier*)

Definition at line 151 of file offload_omp_host.cpp.

int omp_test_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_lock_target.t *lock*)

Definition at line 307 of file offload_omp_host.cpp.

int omp_test_nest_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_nest_lock_target.t *lock*)

Definition at line 434 of file offload_omp_host.cpp.

void omp_unset_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_lock_target_t *lock*)

Definition at line 284 of file offload_omp_host.cpp.

void omp_unset_nest_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_nest_lock_target_t *lock*)

Definition at line 411 of file offload_omp_host.cpp.

7.19 offload_common.cpp File Reference

```
#include "offload_common.h"
```

Functions

- void [OFFLOAD_MALLOC](#) (size_t size, size_t align)

7.19.1 Function Documentation

void OFFLOAD_MALLOC (size_t *size*, size_t *align*)

Definition at line 147 of file offload_common.cpp.

7.20 offload_common.h File Reference

The parts of the runtime library common to host and target.

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <memory.h>
#include "offload.h"
#include "offload_table.h"
#include "offload_trace.h"
#include "offload_timer.h"
#include "offload_util.h"
#include "clean_util.h"
#include "dv_util.h"
#include "liboffload_error_codes.h"
#include <stdarg.h>
```

Classes

- struct [VarDesc](#)
An Offload Variable descriptor.
- struct [VarDesc2](#)
Auxiliary struct used when -g is enabled that holds variable names.
- struct [VarDesc3](#)
- class [Marshaller](#)
- struct [FunctionDescriptor](#)

Macros

- `#define OFFLOAD_DO_TRACE (offload_report_level == 3)`
- `#define OFFLOAD_DEBUG_PRINT_PREFIX() printf("%s%d: ", prefix, mic_index);`
- `#define OFFLOAD_TRACE(trace_level,...)`
- `#define OFFLOAD_DEBUG_LOG(level,...)`
- `#define OFFLOAD_DEBUG_DUMP_BYTES(level, a, b)`
- `#define OFFLOAD_PREFIX(a) __offload_##a`
- `#define OFFLOAD_MALLOC OFFLOAD_PREFIX(malloc)`
- `#define OFFLOAD_FREE(a) _mm_free(a)`
- `#define VAR_TYPE_IS_PTR(t)`
- `#define VAR_TYPE_IS_SCALAR(t)`
- `#define VAR_TYPE_IS_DV_DATA(t)`
- `#define VAR_TYPE_IS_DV_DATA_SLICE(t)`

Typedefs

- `typedef struct OffloadDescriptor OFFLOAD`

Enumerations

- `enum OffloadItemType` *f*
`c_data = 1, c_data_ptr, c_func_ptr, c_void_ptr,`
`c_string_ptr, c_dv, c_dv_data, c_dv_data_slice,`
`c_dv_ptr, c_dv_ptr_data, c_dv_ptr_data_slice, c_cean_var,`
`c_cean_var_ptr, c_data_ptr_array, c_func_ptr_array, c_void_ptr_array,`
`c_string_ptr_array` *g*
- `enum OffloadParameterType` *f*
`c_parameter_unknown = -1, c_parameter_nocopy, c_parameter_in, c_parameter_out,`
`c_parameter_inout` *g*

Functions

- `void OFFLOAD_MALLOC (size_t size, size_t align)`

Variables

- `int console_enabled`
- `int offload_report_level`
- `const char prefix`
- `int offload_number`
- `int mic_index`
- `const int flag_align_is_array = 6`
- `const int flag_alloc_if_is_array = 7`
- `const int flag_free_if_is_array = 8`
- `const int flag_extent_start_is_scalar = 9`
- `const int flag_extent_start_is_array = 10`
- `const int flag_extent_elements_is_scalar = 11`
- `const int flag_extent_elements_is_array = 12`
- `const int flag_into_start_is_scalar = 13`
- `const int flag_into_start_is_array = 14`
- `const int flag_into_elements_is_scalar = 15`
- `const int flag_into_elements_is_array = 16`
- `const int flag_alloc_start_is_scalar = 17`
- `const int flag_alloc_start_is_array = 18`
- `const int flag_alloc_elements_is_scalar = 19`
- `const int flag_alloc_elements_is_array = 20`

7.20.1 Detailed Description

The parts of the runtime library common to host and target.

Definition in file [offload_common.h](#).

7.20.2 Macro Definition Documentation

#define OFFLOAD_DEBUG_DUMP_BYTES(*level*, *a*, *b*)

Definition at line 111 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gather_copyout_data()`, and `OffloadDescriptor::scatter_copyin_data()`.

#define OFFLOAD_DEBUG_LOG(*level*, ...)

Definition at line 110 of file `offload_common.h`.

#define OFFLOAD_DEBUG_PRINT_PREFIX() printf("%s%d: ", prefix, mic_index);

Definition at line 68 of file `offload_common.h`.

#define OFFLOAD_DO_TRACE (offload_report_level == 3)

Definition at line 40 of file `offload_common.h`.

#define OFFLOAD_FREE(*a*) .mm.free(a)

Definition at line 120 of file `offload_common.h`.

#define OFFLOAD_MALLOC OFFLOAD_PREFIX(malloc)

Definition at line 119 of file `offload_common.h`.

#define OFFLOAD_PREFIX(*a*) __offload_##a

Definition at line 117 of file `offload_common.h`.

#define OFFLOAD_TRACE(*trace_level*, ...)

Value:

```
if (console_enabled >= trace_level) {
    OFFLOAD_DEBUG_PRINT_PREFIX();
    printf(_VA_ARGS_);
    fflush(NULL);
}
```

Definition at line 72 of file `offload_common.h`.

Referenced by `OffloadDescriptor::alloc_ptr_data()`, `OffloadDescriptor::find_ptr_data()`, `generate_mem_ranges()`, `generate_mem_ranges_one_rank()`, `generate_one_range()`, `OffloadDescriptor::init_static_ptr_data()`, `OffloadDescriptor::merge_var_descs()`, `OffloadDescriptor::offload_stack_memory_manager()`, `OffloadDescriptor::receive_pointer_data()`, `OffloadDescriptor::scatter_copyin_data()`, `OffloadDescriptor::scatter_copyout_data()`, and `OffloadDescriptor::setup_descriptors()`.

#define VAR_TYPE_IS_DV_DATA(*t*)

Value:

```
((t) == c_dv_data ||
 (t) == c_dv_ptr_data)
```

Definition at line 159 of file `offload_common.h`.

Referenced by `offload_get_src_base()`, `OffloadDescriptor::receive_pointer_data()`, `OffloadDescriptor::scatter_copyin_data()`, and `OffloadDescriptor::send_pointer_data()`.

```
#define VAR_TYPE_IS_DV_DATA_SLICE( t )
```

Value:

```
((t) == c_dv_data_slice || n  
                                (t) == c_dv_ptr_data_slice)
```

Definition at line 162 of file offload_common.h.

Referenced by `offload_get_src_base()`, `OffloadDescriptor::receive_pointer_data()`, `OffloadDescriptor::scatter_copyin_data()`, `OffloadDescriptor::send_pointer_data()`, and `OffloadDescriptor::setup_descriptors()`.

```
#define VAR_TYPE_IS_PTR( t )
```

Value:

```
((t) == c_string_ptr || n  
                                (t) == c_data_ptr || n  
                                (t) == c_cean_var_ptr || n  
                                (t) == c_dv_
```


c.data_ptr_array Pointer to data pointer array.
c.func_ptr_array Pointer to function pointer array.
c.void_ptr_array Pointer to void pointer array.
c.string_ptr_array Pointer to char pointer array.

Definition at line 129 of file offload_common.h.

enum OffloadParameterType

Enumerator

c.parameter_unknown Unknown clause.
c.parameter_nocopy Variable listed in "nocopy" clause.
c.parameter_in Variable listed in "in" clause.
c.parameter_out Variable listed in "out" clause.
c.parameter_inout Variable listed in "inout" clause.

Definition at line 167 of file offload_common.h.

7.20.5 Function Documentation

void OFFLOAD_MALLOC (size_t size, size_t align)

Definition at line 147 of file offload_common.cpp.

7.20.6 Variable Documentation

int console_enabled

Definition at line 82 of file offload_host.cpp.

Referenced by `_offload_console_trace()`, `_offload_init_library_once()`, `Engine::init_device()`, `OffloadDescriptor::offload()`, `Marshaller::receive_func_ptr()`, `Marshaller::send_func_ptr()`, `server_init()`, and `OffloadDescriptor::setup_misc_data()`.

const int flag_align_is_array = 6

Definition at line 313 of file offload_common.h.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

const int flag_alloc_elements_is_array = 20

Definition at line 327 of file offload_common.h.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

const int flag_alloc_elements_is_scalar = 19

Definition at line 326 of file offload_common.h.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

const int flag_alloc_if_is_array = 7

Definition at line 314 of file offload_common.h.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

const int flag_alloc_start_is_array = 18

Definition at line 325 of file offload_common.h.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

const int flag_alloc_start_is_scalar = 17

Definition at line 324 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

const int flag_extent_elements_is_array = 12

Definition at line 319 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

const int flag_extent_elements_is_scalar = 11

Definition at line 318 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

const int flag_extent_start_is_array = 10

Definition at line 317 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

const int flag_extent_start_is_scalar = 9

Definition at line 316 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

const int flag_free_if_is_array = 8

Definition at line 315 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

const int flag_into_elements_is_array = 16

Definition at line 323 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

const int flag_into_elements_is_scalar = 15

Definition at line 322 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

const int flag_into_start_is_array = 14

Definition at line 321 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

const int flag_into_start_is_scalar = 13

Definition at line 320 of file `offload_common.h`.

Referenced by `OffloadDescriptor::gen_var_descs_for_pointer_array()`, and `OffloadDescriptor::setup_descriptors()`.

int mic_index

Definition at line 56 of file `offload_target.cpp`.

Referenced by `omp_get_default_device()`, and `server_init()`.

int offload_number

Definition at line 83 of file `offload_host.cpp`.

Referenced by `OffloadDescriptor::offload()`.

int offload_report.level

Definition at line 29 of file offload_target.cpp.

Referenced by `__offload_init_library_once()`, `Engine::init_device()`, `OffloadDescriptor::offload()`, `server_init()`, and `OffloadDescriptor::setup_misc_data()`.

const char prefix

Definition at line 81 of file offload_host.cpp.

7.21 offload_engine.cpp File Reference

```
#include "offload_engine.h"
#include <signal.h>
#include <errno.h>
#include <algorithm>
#include <vector>
#include "offload_host.h"
#include "offload_table.h"
```

Classes

- struct [Thread](#)

Functions

- static bool [target_entry_cmp](#) (const [VarList::BufEntry](#) &l, const [VarList::BufEntry](#) &r)• static bool

- struct [TargetImage](#)
- struct [PersistData](#)
- struct [Engine](#)

Macros

- #define [check_result](#)(res, tag,...)

Typedefs

- typedef std::list< [PtrData](#) > [PtrDataList](#)
- typedef std::set< [AutoData](#) > [AutoSet](#)
- typedef std::list< [TargetImage](#) > [TargetImageList](#)
- typedef std::list< [PersistData](#) > [PersistDataList](#)

7.22.1 Macro Definition Documentation

#define [check_result](#)(res, tag, ...)

Value:

```
{ n
    if (res == COI_PROCESS_DIED) { n
        fini_process(true); n
        exit(1); n
    } n
    if (res != COI_SUCCESS) { n
        liboffload_error_support(tag, __VA_ARGS__); n
        exit(1); n
    } n
}
```

Definition at line 234 of file `offload_engine.h`.

Referenced by `Engine::get_pipeline()`, `Engine::init_device()`, `Engine::init_process()`, `Engine::init_ptr_data()`, and `Engine::load_libraries()`.

7.22.2 Typedef Documentation

`typedef std::set<AutoData> AutoSet`

Definition at line 184 of file `offload_engine.h`.

`typedef std::list<PersistData> PersistDataList`

Definition at line 227 of file `offload_engine.h`.

`typedef std::list<PtrData > PtrDataList`

Definition at line 138 of file `offload_engine.h`.

`typedef std::list<TargetImage> TargetImageList`

Definition at line 207 of file `offload_engine.h`.

7.23 offload_env.cpp File Reference

```
#include "offload_env.h"
#include <string.h>
#include <ctype.h>
#include "offload_util.h"
#include "liboffload_error_codes.h"
```

7.24 offload_env.h File Reference

```
#include <list>
```

Classes

- struct [MicEnvVar](#)
- struct [MicEnvVar::VarValue](#)
- struct [MicEnvVar::CardEnvVars](#)

Enumerations

- enum [MicEnvVarKind](#) *f* [c.no_mic](#), [c.mic_var](#), [c.mic_card_var](#), [c.mic_card_env](#) *g*

7.24.1 Enumeration Type Documentation

enum [MicEnvVarKind](#)

Enumerator

```
c.no_mic
c.mic_var
c.mic_card_var
c.mic_card_env
```

Definition at line 18 of file [offload_env.h](#).

7.25 offload_host.cpp File Reference

```
#include "offload_host.h"
#include <malloc.h>
#include <alloca.h>
#include <elf.h>
#include <errno.h>
#include <fcntl.h>
#include <stdlib.h>
#include <string.h>
#include <sys/stat.h>
#include <sys/types.h>
#include <algorithm>
#include <bitset>
```

Macros

- #define [PATH_SEPARATOR](#) ":"
- #define [GET_OFFLOAD_NUMBER](#)(timer_data) timer_data? timer_data->[offload_number](#) : 0

Functions

- static void [__offload_init_library_once](#) (void)
- static void [__offload_fini_library](#) (void)
- static char [offload_get_src_base](#) (void ptr, uint8_t type)
- void [get_arr_desc_numbers](#) (const [arr_desc](#) ap, int64_t el_size, int64_t &offset, int64_t &size, int &el_number, [CeanReadRanges](#) &ptr_ranges)
- [arr_desc](#) [make_arr_desc](#) (void ptr_val, int64_t extent_start_val, int64_t extent_elements_val, int64_t size)
- int [__offload_init_library](#) (void)

- void `__offload_register_image` (const void target_image)
- void `__offload_unregister_image` (const void target_image)
- void `__offload_console_trace` (int level)
- int `_Offload_number_of_devices` (void)
- int `_Offload_get_device_number` (void)
- int `_Offload_get_physical_device_number` (void)
- int `_Offload_signaled` (int index, void signal)
- void `_Offload_report` (int val)
- void `__dbg_target_so_loaded` ()
- void `__dbg_target_so_unloaded` ()

Variables

- const char `prefix`
- int `console_enabled` = 0
- int `offload_number` = 0
- static const char `htrace_envname` = "H.TRACE"
- static const char `offload_report_envname` = "OFFLOAD.REPORT"
- static char `timer_envname` = "H.TIME"
- static const char `vardesc_direction_as_string` []
- static const char `vardesc_type_as_string` []
- Engine `mic_engines` = 0
- uint32_t `mic_engines_total` = 0
- pthread_key_t `mic_thread_key`
- MicEnvVar `mic_env_vars`
- uint64_t `cpu_frequency` = 0
- uint32_t `mic_stack_size` = 12 1024 1024
- uint64_t `mic_buffer_size` = 0
- char `mic_library_path` = 0
- bool `mic_proxy_io` = true
- char `mic_proxy_fs_root` = 0
- uint64_t `__offload_use_2mb_buffers` = 0xffffffffffffffffULL
- static const char `mic_use_2mb_buffers_envname`
- static uint64_t `__offload_use_async_buffer_write` = 2 1024 1024
- static const char `mic_use_async_buffer_write_envname`
- static uint64_t `__offload_use_async_buffer_read` = 2 1024 1024
- static const char `mic_use_async_buffer_read_envname`
- OffloadInitType `__offload_init_type` = c_init_on_offload_all
- static const char `offload_init_envname` = "OFFLOAD.INIT"
- static bool `__offload_active_wait` = true
- static const char `offload_active_wait_envname` = "OFFLOAD.ACTIVE.WAIT"
- int `__omp_device_num` = 0
- static const char `omp_device_num_envname` = "OMP.DEFAULT.DEVICE"
- static bool `__target_libs`
- static TargetImageList `__target_libs_list`
- static mutex_t `__target_libs_lock`
- static mutex_t `stack_alloc_lock`
- TargetImage `__target_exe`
- int `__dbg_is_attached` = 0
- int `__dbg_target_id` = -1
- pid_t `__dbg_target_so_pid` = -1
- char `__dbg_target_exe_name` [MAX_TARGET_NAME] = `f0g`
- const int `__dbg_api_major_version` = 1
- const int `__dbg_api_minor_version` = 0

7.25.1 Macro Definition Documentation

```
#define GET_OFFLOAD_NUMBER( timer_data ) timer_data->offload_number : 0
```

Definition at line 43 of file offload_host.cpp.

Referenced by OffloadDescriptor::alloc_ptr_data(), OffloadDescriptor::compute(), OffloadDescriptor::gather_copyin_data(), OffloadDescriptor::offload(), OffloadDescriptor::receive_pointer_data(), OffloadDescriptor::send_pointer_data(), and OffloadDescriptor::setup_misc_data().

```
#define PATH_SEPARATOR ":"
```

Definition at line 40 of file offload_host.cpp.

7.25.2 Function Documentation

```
void __dbg_target_so_loaded ( )
```

Definition at line 4355 of file offload_host.cpp.

Referenced by Engine::init_process().

```
void __dbg_target_so_unloaded ( )
```

Definition at line 4358 of file offload_host.cpp.

Referenced by Engine::fini_process().

```
void __offload_console_trace ( int level )
```

Definition at line 4295 of file offload_host.cpp.

```
static void __offload_fini_library ( void ) [static]
```

Definition at line 3873 of file offload_host.cpp.

Referenced by __offload_unregister_image().

```
int __offload_init_library ( void )
```

Definition at line 4171 of file offload_host.cpp.

Referenced by __offload_myLoadLibrary_once(), __offload_register_image(), _Offload_number_of_devices(), _Offload_signaled(), OFFLOAD_TARGET_ACQUIRE(), OFFLOAD_TARGET_ACQUIRE1(), and omp_get_num_devices().

```
static void __offload_init_library_once ( void ) [static]
```

Definition at line 3901 of file offload_host.cpp.

Referenced by __offload_init_library().

```
void __offload_register_image ( const void target_image )
```

Definition at line 4203 of file offload_host.cpp.

Referenced by offload_init().

```
void __offload_unregister_image ( const void target_image )
```

Definition at line 4261 of file offload_host.cpp.

Referenced by offload_fini().

```
int _Offload_get_device_number ( void )
```

Definition at line 4308 of file offload_host.cpp.

int _Offload_get_physical_device_number (void)

Definition at line 4313 of file offload_host.cpp.

int _Offload_number_of_devices (void)

Definition at line 4302 of file offload_host.cpp.

void _Offload_report (int val)

Definition at line 4339 of file offload_host.cpp.

int _Offload_signaled (int *index*, void *signal*)

Definition at line 4318 of file offload_host.cpp.

void get_arr_desc_numbers (const arr_desc *ap*, int64_t *el_size*, int64_t & *offset*, int64_t & *size*, int & *el_number*, CeanReadRanges & *ptr_ranges*)

Definition at line 3449 of file offload_host.cpp.

Referenced by OffloadDescriptor::gen_var_descs_for_pointer_array().

arr_desc make_arr_desc (void *ptr_val*, int64_t *extent_start_val*, int64_t *extent_elements_val*,

pid_t __dbg_target_so_pid = -1

Definition at line 4350 of file offload_host.cpp.
Referenced by Engine::init_process().

bool __offload_active_wait = true [static]

Definition at line 159 of file offload_host.cpp.
Referenced by __offload_init_library_once(), and OffloadDescriptor::offload_finish().

OffloadInitType __offload_init_type = c_init_on_offload_all

Definition at line 155 of file offload_host.cpp.
Referenced by __offload_init_library_once(), __offload_register_image(), OFFLOAD_TARGET_ACQUIRE(), and OFFLOAD_TARGET_ACQUIRE1().

uint64_t __offload_use_2mb_buffers = 0xffffffffffffffffULL

Definition at line 142 of file offload_host.cpp.
Referenced by __offload_init_library_once(), OffloadDescriptor::alloc_ptr_data(), and OffloadDescriptor::offload_stack_memory_manager().

uint64_t __offload_use_async_buffer_read = 2 1024 1024 [static]

Definition at line 150 of file offload_host.cpp.
Referenced by __offload_init_library_once(), and OffloadDescriptor::receive_pointer_data().

uint64_t __offload_use_async_buffer_write = 2 1024 1024 [static]

Definition at line 146 of file offload_host.cpp.
Referenced by __offload_init_library_once(), and OffloadDescriptor::send_pointer_data().

int __omp_device_num = 0

Definition at line 163 of file offload_host.cpp.
Referenced by __offload_init_library_once(), OFFLOAD_TARGET_ACQUIRE1(), omp_get_default_device(), and omp_set_default_device().

TargetImage __target_exe

Definition at line 173 of file offload_host.cpp.
Referenced by Engine::init_process().

bool __target_libs [static]

Definition at line 167 of file offload_host.cpp.
Referenced by __offload_init_library(), and __offload_register_image().

TargetImageList __target_libs_list [static]

Definition at line 168 of file offload_host.cpp.
Referenced by __offload_init_library(), and __offload_register_image().

mutex_t __target_libs_lock [static]

Definition at line 169 of file offload_host.cpp.

int console_enabled = 0

Definition at line 82 of file offload_host.cpp.
Referenced by __offload_console_trace(), __offload_init_library_once(), and OffloadDescriptor::setup_misc_data().

uint64_t cpu_frequency = 0

Definition at line 121 of file offload_host.cpp.
Referenced by __offload_init_library_once().

const char htrace_envname = "H.TRACE" [static]

Definition at line 85 of file offload_host.cpp.
Referenced by __offload_init_library_once().

uint64_t mic_buffer_size = 0

Definition at line 127 of file offload_host.cpp.
Referenced by __offload_init_library_once(), and Engine::init_process().

Engine mic_engines = 0

Definition at line 117 of file offload_host.cpp.
Referenced by __offload_fini_library(), __offload_myofini(), __offload_myoinit_once(), __offload_myolsAvailable(), OFFLOAD_TARGET_ACQUIRE(), OFFLOAD_TARGET_ACQUIRE1(), ORSL::release(), ORSL::reserve(), and ORSL::try_reserve().

uint32_t mic_engines_total = 0

Definition at line 118 of file offload_host.cpp.
Referenced by __offload_fini_library(), __offload_init_library(), __offload_init_library_once(), __offload_myofini(), __offload_myoinit_once(), __offload_myolsAvailable(), __offload_register_image(), _Offload_number_of_devices(), _Offload_signaled(), Engine::init_device(), OFFLOAD_TARGET_ACQUIRE(), OFFLOAD_TARGET_ACQUIRE1(), omp_get_num_devices(), server_init(), and Thread:: Thread().

MicEnvVar mic_env_vars

Definition at line 120 of file offload_host.cpp.
Referenced by Engine::init_process().

char mic_library_path = 0

Definition at line 130 of file offload_host.cpp.
Referenced by __offload_fini_library(), __offload_init_library_once(), Engine::init_process(), and Engine::load_libraries().

char mic_proxy_fs_root = 0

Definition at line 136 of file offload_host.cpp.
Referenced by __offload_fini_library(), __offload_init_library_once(), and Engine::init_process().

bool mic_proxy_io = true

Definition at line 133 of file offload_host.cpp.
Referenced by __offload_init_library_once(), and Engine::init_process().

uint32_t mic_stack_size = 12 1024 1024

Definition at line 124 of file offload_host.cpp.
Referenced by __offload_init_library_once(), and Engine::get_pipeline().

pthread_key_t mic_thread_key

Definition at line 119 of file offload_host.cpp.
Referenced by __offload_fini_library(), __offload_init_library_once(), Engine::get_auto_vars(), and Engine::get_pipeline().

const char mic_use_2mb_buffers_envname [static]

Initial value:

```
=
    "MI_C_USE_2MB_BUFFERS"
```

Definition at line 143 of file offload_host.cpp.

Referenced by `__offload_init_library_once()`.

const char mic_use_async_buffer_read_envname [static]

Initial value:

```
=
    "MI_C_USE_ASYNC_BUFFER_READ"
```

Definition at line 151 of file offload_host.cpp.

Referenced by `__offload_init_library_once()`.

const char mic_use_async_buffer_write_envname [static]

Initial value:

```
=
    "MI_C_USE_ASYNC_BUFFER_WRITE"
```

Definition at line 147 of file offload_host.cpp.

Referenced by `__offload_init_library_once()`.

const char offload_active_wait_envname = "OFFLOAD_ACTIVE_WAIT" [static]

Definition at line 160 of file offload_host.cpp.

Referenced by `__offload_init_library_once()`.

const char offload_init_envname = "OFFLOAD_INIT" [static]

Definition at line 156 of file offload_host.cpp.

Referenced by `__offload_init_library_once()`.

int offload_number = 0

Definition at line 83 of file offload_host.cpp.

const char offload_report_envname = "OFFLOAD_REPORT" [static]

Definition at line 86 of file offload_host.cpp.

Referenced by `__offload_init_library_once()`.

const char omp_device_num_envname = "OMP_DEFAULT_DEVICE" [static]

Definition at line 164 of file offload_host.cpp.

Referenced by `__offload_init_library_once()`.

const char prefix

Definition at line 81 of file offload_host.cpp.

Referenced by `__offload_init_library_once()`.

mutex_t stack_alloc_lock [static]

Definition at line 170 of file offload_host.cpp.

```
char timer_envname = "H.TIME" [static]
```

Definition at line 87 of file offload_host.cpp.

Referenced by `_offload_init_library_once()`.

```
const char vardesc_direction_as_string[] [static]
```

Initial value:

```
= {
    "NOCOPY",
    "I N",
    "OUT",
    "I NOUT"
}
```

Definition at line 90 of file offload_host.cpp.

Referenced by `OffloadDescriptor::setup_descriptors()`.

```
const char vardesc_type_as_string[] [static]
```

Initial value:

```
= {
    "unknown",
    "data",
    "data_ptr",
    "func_ptr",
    "void_ptr",
    "string_ptr",
    "dv",
    "dv_data",
    "dv_data_slice",
    "dv_ptr",
    "dv_ptr_data",
    "dv_ptr_data_slice",
    "cean_var",
    "cean_var_ptr",
    "c_data_ptr_array",
    "c_func_ptr_array",
    "c_void_ptr_array",
    "c_string_ptr_array"
}
```

Definition at line 96 of file offload_host.cpp.

Referenced by `OffloadDescriptor::setup_descriptors()`.

7.26 offload_host.h File Reference

The parts of the runtime library used only on the host.

```
#include <unistd.h>
#include "offload_common.h"
#include "offload_util.h"
#include "offload_engine.h"
#include "offload_env.h"
#include "offload_orsl.h"
#include "coi/coi_client.h"
```

Classes

- struct [Image](#)

The target image is packed as follows.

- class [OffloadDescriptor](#)
- struct [OffloadDescriptor::VarExtra](#)
- class [OffloadDescriptor::ReadArrElements< T >](#)

Macros

- `#define MAX_TARGET_NAME 512`

Enumerations

- enum `OffloadInitType` `f` `c` `init_on_start`, `c` `init_on_offload`, `c` `init_on_offload_all` `g`

Functions

- void `__offload_register_image` (const void `image`)
- void `__offload_unregister_image` (const void `image`)
- int `__offload_init_library` (void)
- void `__dbg_target_so_loaded` ()
- void `__dbg_target_so_unloaded` ()

Variables

- Engine `mic_engines`
- uint32_t `mic_engines_total`
- pthread_key_t `mic_thread_key`
- MicEnvVar `mic_env_vars`
- uint64_t `cpu_frequency`
- char `mic_library_path`
- uint32_t `mic_stack_size`
- uint64_t `mic_buffer_size`
- bool `mic_proxy_io`
- char `mic_proxy_fs_root`
- uint64_t `__offload_use_2mb_buffers`
- OffloadInitType `__offload_init_type`
- int `__omp_device_num`
- TargetImage `__target_exe`
- char `__dbg_target_exe_name` [MAX_TARGET_NAME]
- pid_t `__dbg_target_so_pid`
- int `__dbg_target_id`
- int `__dbg_is_attached`
- const int `__dbg_api_major_version`
- const int `__dbg_api_minor_version`

7.26.1 Detailed Description

The parts of the runtime library used only on the host.

Definition in file `offload_host.h`.

7.26.2 Macro Definition Documentation

`#define MAX_TARGET_NAME 512`

Definition at line 324 of file `offload_host.h`.

Referenced by `Engine::init_process()`.

7.26.3 Enumeration Type Documentation

enum OffloadInitType

Enumerator

c_init_on_start
c_init_on_offload
c_init_on_offload_all

Definition at line 265 of file offload_host.h.

7.26.4 Function Documentation

void __dbg_target_so_loaded ()

Definition at line 4355 of file offload_host.cpp.

Referenced by Engine::init_process().

void __dbg_target_so_unloaded ()

Definition at line 4358 of file offload_host.cpp.

Referenced by Engine::fini_process().

int __offload_init_library (void)

Definition at line 4171 of file offload_host.cpp.

Referenced by __offload_myLoadLibrary_once(), __offload_register_image(), _Offload_number_of_devices(), _Offload_signaled(), OFFLOAD_TARGET_ACQUIRE(), OFFLOAD_TARGET_ACQUIRE1(), and omp_get_num_devices().

void __offload_register_image (const void image)

Definition at line 4203 of file offload_host.cpp.

Referenced by offload_init().

void __offload_unregister_image (const void image)

Definition at line 4261 of file offload_host.cpp.

Referenced by offload_fini().

7.26.5 Variable Documentation

const int __dbg_api_major_version

Definition at line 338 of file offload_host.h.

const int __dbg_api_minor_version

Definition at line 341 of file offload_host.h.

int __dbg_is_attached

Definition at line 335 of file offload_host.h.

char __dbg_target_exe_name[MAX_TARGET_NAME]

Definition at line 325 of file offload_host.h.

int __dbg_target_id

Definition at line 331 of file offload_host.h.

pid_t __dbg_target_so_pid

Definition at line 328 of file offload_host.h.

OffloadInitType __offload_init_type

Definition at line 155 of file offload_host.cpp.

Referenced by `__offload_init_library_once()`, `__offload_register_image()`, `OFFLOAD_TARGET_ACQUIRE()`, and `OFFLOAD_TARGET_ACQUIRE1()`.

uint64_t __offload_use_2mb_buffers

Definition at line 142 of file offload_host.cpp.

Referenced by `__offload_init_library_once()`, `OffloadDescriptor::alloc_ptr_data()`, and `OffloadDescriptor::offload_stack_`.

Definition at line

dy

host.cpp.

Tq1 0 0 1 25848581.624882 cm[] d 0 0.398 w 0 0 m 2.69 0 | SQBT/F45 8.9663 T2 1499626448139 Td [(TARGET)

offload

ACQUIRE(),31766(OFFLOAD))IT ETq1 0 0 241937266.0.809 cm[] d 0 0.398 w 0 0 m 2.69 0 | SQBT/F45 8.9663 T2 1499626448139 Td [(TARGET)

ui3264

TARGET

dy

library

offload dy::[(init))IT ETq1 0 0 317.9.293 1397194 cm[] d 0 0.398 w 0 0 m 2.69 0 | SQBT/F45 8.9663 T320.6898336687683 Td processE1().

char mic_proxy_fs_root

Definition at line 136 of file `offload_host.cpp`.

Referenced by `__offload_fini_library()`, `__offload_init_library_once()`, and `Engine::init_process()`.

bool mic_proxy_io

Definition at line 133 of file `offload_host.cpp`.

Referenced by `__offload_init_library_once()`, and `Engine::init_process()`.

uint32_t mic_stack_size

Definition at line 124 of file `offload_host.cpp`.

Referenced by `__offload_init_library_once()`, and `Engine::get_pipeline()`.

pthread_key_t mic_thread_key

Definition at line 119 of file `offload_host.cpp`.

Referenced by `__offload_fini_library()`, `__offload_init_library_once()`, `Engine::get_auto_vars()`, and `Engine::get_pipeline()`.

7.27 offload_my_host.cpp File Reference

```
#i ncl ude " offl oad_my_o_ho.st. h"
#i ncl ude <errno. h>
#i ncl ude <mal l oc. h>
#i ncl ude " offl oad_ho.st. h"
```

Classes

- class [MyoWrapper](#)
- struct [MyoTable](#)

Macros

- `#define MYO_VERSION1 "MYO_1.0"`
- `#define MYO_TABLE_END_MARKER() reinterpret_cast<const char >(0)`

Typedefs

- `typedef std::list< MyoTable > MyoTableList`

Functions

- `void __cilkrts_cilk_for_32 (void , void , uint32_t, int32_t)`
- `void __cilkrts_cilk_for_64 (void , void , uint64_t, int32_t)`
- `static void __offload_my_o_shared_table_register (SharedTableEntry entry)`
- `static void __offload_my_o_shared_init_table_register (InitTableEntry entry)`
- `static void __offload_my_o_fptr_table_register (FptrTableEntry entry)`
- `static void __offload_my_oLoadLibrary_once (void)`
- `static bool __offload_my_oLoadLibrary (void)`
- `static void __offload_my_oInit_once (void)`
- `static bool __offload_my_oInit (void)`
- `static bool shared_table_entries (SharedTableEntry entry)`
- `static bool fptr_table_entries (FptrTableEntry entry)`
- `void __offload_my_oRegisterTables (InitTableEntry init_table, SharedTableEntry shared_table, FptrTableEntry fptr_table)`

- void `__offload.myoFini` (void)
- int `__offload.myoIsAvailable` (int target_number)
- void `__offload.myoIRemoteThunkCall` (void thunk, void arg, int target_number)
- void `_Offload.shared_malloc` (size_t size)
- void `_Offload.shared_free` (void ptr)
- void `_Offload.shared_aligned_malloc` (size_t size, size_t align)
- void `_Offload.shared_aligned_free` (void ptr)
- void `__intel.cilk.for_32_offload` (int size, void(copy_constructor)(void , void), int target_number, void raddr, void closure_object, unsigned int iters, unsigned int grain_size)
- void `__intel.cilk.for_64_offload` (int size, void(copy_constructor)(void , void), int target_number, void raddr, void closure_object, uint64_t iters, uint64_t grain_size)

Variables

- static bool `myo.is.available`
- static `MyoWrapper` `myo.wrapper`
- static `MyoTableList` `__myo.table.list`
- static `mutex_t` `__myo.table.lock`
- static bool `__myo.tables` = false

7.27.1 Macro Definition Documentation

`#define MYO_TABLE_END_MARKER() reinterpret.cast<const char >(0)`

Definition at line 33 of file `offload_myo_host.cpp`.

Referenced by `__offload_myo_fptr_table_register()`, `__offload_myo_shared_init_table_register()`, `__offload_myo_shared_table_register()`, `__offload_myo_init()`, `fptr_table_entries()`, and `shared_table_entries()`.

`#define MYO_VERSION1 "MYO_1.0"`

Definition at line 20 of file `offload_myo_host.cpp`.

Referenced by `MyoWrapper::LoadLibrary()`.

7.27.2 Typedef Documentation

`typedef std::list<MyoTable> MyoTableList`

Definition at line 315 of file `offload_myo_host.cpp`.

7.27.3 Function Documentation

`void __cilkrts.cilk_for_32 (void , void , uint32_t , int32_t)`

Referenced by `__intel.cilk_for_32_offload()`.

`void __cilkrts.cilk_for_64 (void , void , uint64_t , int32_t)`

Referenced by `__intel.cilk_for_64_offload()`.

`void __intel.cilk_for_32_offload (int size, void()(void , void) copy_constructor, int target_number, void raddr, void closure_object, unsigned int iters, unsigned int grain_size)`

Definition at line 705 of file `offload_myo_host.cpp`.

`void __intel.cilk_for_64_offload (int size, void()(void , void) copy_constructor, int target_number, void raddr, void closure_object, uint64_t iters, uint64_t grain_size)`

Definition at line 756 of file `offload_myo_host.cpp`.

static void __offload.myo_fptr_table_register (FptrTableEntry entry) [static]

Definition at line 555 of file offload_myo_host.cpp.

Referenced by __offload_myoRegisterTables().

static void __offload.myo_shared_init_table_register (InitTableEntry entry) [static]

Definition at line 533 of file offload_myo_host.cpp.

Referenced by __offload_myoRegisterTables().

static void __offload.myo_shared_table_register (SharedTableEntry entry) [static]

Definition at line 499 of file offload_myo_host.cpp.

Referenced by __offload_myoRegisterTables().

void __offload.myoFini (void)

Definition at line 474 of file offload_myo_host.cpp.

Referenced by __offload_unregister_image().

static bool __offload.myoInit (void) [static]

Definition at line 382 of file offload_myo_host.cpp.

Referenced by __offload_myolsAvailable().

static void __offload.myoInit_once (void) [static]

Definition at line 339 of file offload_myo_host.cpp.

Referenced by __offload_myoInit().

void __offload.myoRemoteThunkCall (void thunk, void arg, int target_number)

Definition at line 638 of file offload_myo_host.cpp.

int __offload.myolsAvailable (int target_number)

Definition at line 595 of file offload_myo_host.cpp.

Referenced by __intel_cilk_for_32_offload(), and __intel_cilk_for_64_offload().

static bool __offload.myoLoadLibrary (void) [static]

Definition at line 331 of file offload_myo_host.cpp.

Referenced by __offload_myoInit_once(), __offload_myoRegisterTables(), _Offload_shared_aligned_free(), _Offload_shared_aligned_malloc(), _Offload_shared_free(), and _Offload_shared_malloc().

static void __offload.myoLoadLibrary_once (void) [static]

Definition at line 324 of file offload_myo_host.cpp.

Referenced by __offload_myoLoadLibrary().

void __offload_myoRegisterTables (InitTableEntry init_table, SharedTableEntry shared_table, FptrTableEntry fptr_table)

Definition at line 455 of file offload_myo_host.cpp.

Referenced by offload_init().

void _Offload_shared_aligned_free (void ptr)

Definition at line 693 of file offload_myo_host.cpp.

void _Offload_shared_aligned_malloc (size_t size, size_t align)

Definition at line 678 of file offload_myo_host.cpp.

void _Offload_shared.free (void ptr)

Definition at line 666 of file offload_myo_host.cpp.

Referenced by `__intel_cilk_for_32_offload()`, and `__intel_cilk_for_64_offload()`.

void _Offload_shared_malloc (size_t size)

Definition at line 654 of file offload_myo_host.cpp.

Referenced by `__intel_cilk_for_32_offload()`, and `__intel_cilk_for_64_offload()`.

static bool fptr_table_entries (FptrTableEntry entry) [static]

Definition at line 436 of file offload_myo_host.cpp.

Referenced by `__offload_myoRegisterTables()`.

static bool shared_table_entries (SharedTableEntry entry) [static]

Definition at line 417 of file offload_myo_host.cpp.

Referenced by `__offload_myoRegisterTables()`.

7.27.4 Variable Documentation

MyoTableList __myo_table_list [static]

Definition at line 316 of file offload_myo_host.cpp.

Referenced by `__offload_myo_shared_table_register()`, and `__offload_myoInit()`.

mutex_t __myo_table_lock [static]

Definition at line 317 of file offload_myo_host.cpp.

bool __myo_tables = false [static]

Definition at line 318 of file offload_myo_host.cpp.

Referenced by `__offload_myo_shared_table_register()`, and `__offload_myoInit()`.

bool myo_is_available [static]

Definition at line 303 of file offload_myo_host.cpp.

Referenced by `__offload_myoFini()`, `__offload_myoInit()`, and `__offload_myoInit_once()`.

MyoWrapper myo_wrapper [static]

Definition at line 304 of file offload_myo_host.cpp.

7.28 offload_myo_host.h File Reference

```
#include <myotypes.h>
#include <myompl.h>
#include <myo.h>
#include "offload.h"
```

Classes

- struct [FptrTableEntry](#)
- struct [InitTableEntry](#)

Macros

- `#define OFFLOAD_MYO_SHARED_TABLE_SECTION_START ".MyoSharedTable."`
- `#define OFFLOAD_MYO_SHARED_TABLE_SECTION_END ".MyoSharedTable."`
- `#define OFFLOAD_MYO_SHARED_INIT_TABLE_SECTION_START ".MyoSharedInitTable."`
- `#define OFFLOAD_MYO_SHARED_INIT_TABLE_SECTION_END ".MyoSharedInitTable."`
- `#define OFFLOAD_MYO_FPTR_TABLE_SECTION_START ".MyoFptrTable."`
- `#define OFFLOAD_MYO_FPTR_TABLE_SECTION_END ".MyoFptrTable."`

Typedefs

- `typedef MyoiSharedVarEntry SharedTableEntry`

Functions

- `void __offload_myoRegisterTables (InitTableEntry init_table, SharedTableEntry shared_table, FptrTableEntry fptr_table)`
- `void __offload_myoFini (void)`

7.28.1 Macro Definition Documentation

`#define OFFLOAD_MYO_FPTR_TABLE_SECTION_END ".MyoFptrTable."`

Definition at line 60 of file `offload_myo_host.h`.

`#define OFFLOAD_MYO_FPTR_TABLE_SECTION_START ".MyoFptrTable."`

Definition at line 59 of file `offload_myo_host.h`.

`#define OFFLOAD_MYO_SHARED_INIT_TABLE_SECTION_END ".MyoSharedInitTable."`

Definition at line 57 of file `offload_myo_host.h`.

`#define OFFLOAD_MYO_SHARED_INIT_TABLE_SECTION_START ".MyoSharedInitTable."`

Definition at line 56 of file `offload_myo_host.h`.

`#define OFFLOAD_MYO_SHARED_TABLE_SECTION_END ".MyoSharedTable."`

Definition at line 54 of file `offload_myo_host.h`.

`#define OFFLOAD_MYO_SHARED_TABLE_SECTION_START ".MyoSharedTable."`

Definition at line 53 of file `offload_myo_host.h`.

7.28.2 Typedef Documentation

`typedef MyoiSharedVarEntry SharedTableEntry`

Definition at line 19 of file `offload_myo_host.h`.

7.28.3 Function Documentation

void __offload_myoFini (void)

Definition at line 474 of file offload_myo_host.cpp.

Referenced by __offload_unregister_image().

void __offload_myoRegisterTables (InitTableEntry *init_table*, SharedTableEntry *shared_table*, FptrTableEntry *fptr_table*)

Definition at line 455 of file offload_myo_host.cpp.

Referenced by offload_init().

7.29 offload_myo_target.cpp File Reference

```
#include "offload_myo_target.h"
#include "offload_target.h"
```

Functions

- void [__cilkrts_cilk_for_32](#) (void , void , uint32_t, int32_t)
- void [__cilkrts_cilk_for_64](#) (void , void , uint64_t, int32_t)
- static void [CheckResult](#) (const char func, MyoError error)
- static void [__offload_myo_shared_table_register](#) (SharedTableEntry entry)
- static void [__offload_myo_fptr_table_register](#) (FptrTableEntry entry)
- void [__offload_myoAcquire](#) (void)
- void [__offload_myoRelease](#) (void)
- void [__intel_cilk_for_32_offload_wrapper](#) (void args_)
- void [__intel_cilk_for_64_offload_wrapper](#) (void args_)
- static void [__offload_myo_once_init](#) (void)
- void [__offload_myoRegisterTables](#) (SharedTableEntry shared_table, FptrTableEntry fptr_table)
- void [_Offload_shared_malloc](#) (size_t size)
- void [_Offload_shared_free](#) (void ptr)
- void [_Offload_shared_aligned_malloc](#) (size_t size, size_t align)
- void [_Offload_shared_aligned_free](#) (void ptr)
- void [__offload_myoLibInit](#) ()
- void [__offload_myoLibFini](#) ()

7.29.1 Function Documentation

void __cilkrts_cilk_for_32 (void , void , uint32_t , int32_t)

Referenced by __intel_cilk_for_32_offload_wrapper().

void __cilkrts_cilk_for_64 (void , void , uint64_t , int32_t)

Referenced by __intel_cilk_for_64_offload_wrapper().

void __intel_cilk_for_32_offload_wrapper (void args_)

Definition at line 89 of file offload_myo_target.cpp.

Referenced by __offload_myo_once_init().

void __intel_cilk_for_64_offload_wrapper (void args_)

Definition at line 103 of file offload_myo_target.cpp.

Referenced by __offload_myo_once_init().

static void __offload_myo_fptr_table_register (FptrTableEntry entry) [static]

Definition at line 51 of file offload_myo_target.cpp.

Referenced by __offload_myoRegisterTables().

static void __offload_myo_once_init (void) [static]

Definition at line 117 of file offload_myo_target.cpp.

Referenced by __offload_

7.30 offload_my_target.h File Reference

```
#include <myotypes.h>
#include <myoiimpl.h>
#include <myo.h>
#include "offload.h"
```

Macros

- `#define OFFLOAD_MYO_SHARED_TABLE_SECTION_START ".MyoSharedTable."`
- `#define OFFLOAD_MYO_SHARED_TABLE_SECTION_END ".MyoSharedTable."`
- `#define OFFLOAD_MYO_FPTR_TABLE_SECTION_START ".MyoFptrTable."`
- `#define OFFLOAD_MYO_FPTR_TABLE_SECTION_END ".MyoFptrTable."`

Typedefs

- `typedef MyoiSharedVarEntry SharedTableEntry`
- `typedef MyoiTargetSharedFptrEntry FptrTableEntry`

Functions

- `void __offload_my_register_tables (SharedTableEntry shared_table, FptrTableEntry fptr_table)`
- `void __offload_my_acquire (void)`
- `void __offload_my_release (void)`
- `void __offload_my_libinit ()`
- `void __offload_my_libfini ()`

7.30.1 Macro Definition Documentation

```
#define OFFLOAD_MYO_FPTR_TABLE_SECTION_END ".MyoFptrTable."
```

Definition at line 33 of file `offload_my_target.h`.

```
#define OFFLOAD_MYO_FPTR_TABLE_SECTION_START ".MyoFptrTable."
```

Definition at line 32 of file `offload_my_target.h`.

```
#define OFFLOAD_MYO_SHARED_TABLE_SECTION_END ".MyoSharedTable."
```

Definition at line 30 of file `offload_my_target.h`.

```
#define OFFLOAD_MYO_SHARED_TABLE_SECTION_START ".MyoSharedTable."
```

Definition at line 29 of file `offload_my_target.h`.

7.30.2 Typedef Documentation

```
typedef MyoiTargetSharedFptrEntry FptrTableEntry
```

Definition at line 20 of file `offload_my_target.h`.

```
typedef MyoiSharedVarEntry SharedTableEntry
```

Definition at line 19 of file `offload_my_target.h`.

7.30.3 Function Documentation

void __offload_myoAcquire (void)

Definition at line 77 of file offload_myo.target.cpp.

void __offload_myoLibFini ()

Definition at line 180 of file offload_myo.target.cpp.

void __offload_myoLibInit ()

Definition at line 174 of file offload_myo.target.cpp.

void __offload_myoRegisterTables (SharedTableEntry *shared_table*, FptrTableEntry *fptr_table*)

Definition at line 129 of file offload_myo.target.cpp.

void __offload_myoRelease (void)

Definition at line 83 of file offload_myo.target.cpp.

7.31 offload

- int `omp_test_nest_lock_target` (`TARGET_TYPE` target_type, int target_number, `omp_nest_lock_target_t` lock)
- void `kmp_set_stacksize_target` (`TARGET_TYPE` target_type, int target_number, int size)
- int `kmp_get_stacksize_target` (`TARGET_TYPE` target_type, int target_number)
- void `kmp_set_stacksize_s_target` (`TARGET_TYPE` target_type, int target_number, size_t size)
- size_t `kmp_get_stacksize_s_target` (`TARGET_TYPE` target_type, int target_number)
- void `kmp_set_blocktime_target` (`TARGET_TYPE` target_type, int target_number, int time)
- int `kmp_get_blocktime_target` (`TARGET_TYPE` target_type, int target_number)
- void `kmp_set_library_serial_target` (`TARGET_TYPE` target_type, int target_number)
- void `kmp_set_library_turnaround_target` (`TARGET_TYPE` target_type, int target_number)
- void `kmp_set_library_throughput_target` (`TARGET_TYPE` target_type, int target_number)
- void `kmp_set_library_target` (`TARGET_TYPE` target_type, int target_number, int mode)
- int `kmp_get_library_target` (`TARGET_TYPE` target_type, int target_number)
- void `kmp_set_defaults_target` (`TARGET_TYPE` target_type, int target_number, char const defaults)
- void `kmp_create_affinity_mask_target` (`TARGET_TYPE` target_type, int target_number, `kmp_affinity_mask_target_t` mask)
- void `kmp_destroy_affinity_mask_target` (`TARGET_TYPE` target_type, int target_number, `kmp_affinity_mask_target_t` mask)
- int `kmp_set_affinity_target` (`TARGET_TYPE` target_type, int target_number, `kmp_affinity_mask_target_t` mask)
- int `kmp_get_affinity_target` (`TARGET_TYPE` target_type, int target_number, `kmp_affinity_mask_target_t` mask)
- int `kmp_get_affinity_max_proc_target` (`TARGET_TYPE` target_type, int target_number)
- int `kmp_set_affinity_mask_proc_target` (`TARGET_TYPE` target_type, int target_number, int proc, `kmp_affinity_mask_target_t` mask)
- int `kmp_unset_affinity_mask_proc_target` (`TARGET_TYPE` target_type, int target_number, int proc, `kmp_affinity_mask_target_t` mask)
- int `kmp_get_affinity_mask_proc_target` (`TARGET_TYPE` target_type, int target_number, int proc, `kmp_affinity_mask_target_t` mask)

7.31.1 Function Documentation

void `kmp_create_affinity_mask`

int kmp_get_library_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 575 of file offload_omp_host.cpp.

size_t kmp_get_stacksize_s_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 498 of file offload_omp_host.cpp.

int kmp_get_stacksize_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 479 of file offload_omp_host.cpp.

**int kmp_set_affinity_mask_proc_target (TARGET_TYPE *target_type*, int *target_number*, int *proc*,
kmp_affinity_mask_target_t *mask*)**

Definition at line 730 of file offload_omp_host.cpp.

**int kmp_set_affinity_target (TARGET_TYPE *target_type*, int *target_number*, kmp_affinity_mask_target_t
mask)**

Definition at line 655 of file offload_omp_host.cpp.

void kmp_set_blocktime_target (TARGET_TYPE *target_type*, int *target_number*, int *time*)

Definition at line 507 of file offload_omp_host.cpp.

void kmp_set_defaults_target (TARGET_TYPE *target_type*, int *target_number*, char const *defaults*)

Definition at line 584 of file offload_omp_host.cpp.

void kmp_set_library_serial_target (TARGET_TYPE *target_type*, int *target_number*, int *serial*)

host.cpp.

omp

t *mask*)

offload
target_type, int *target* set stacksize

mask

affinity

omp

- -

number)

void omp_destroy_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_lock_target_t *lock*)

Definition at line 238 of file offload_omp_host.cpp.

void omp_destroy_nest_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_nest_lock_target_t *lock*)

Definition at line 365 of file offload_omp_host.cpp.

int omp_get_default_device (void)

Definition at line 24 of file offload_omp_host.cpp.

int omp_get_dynamic_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 123 of file offload_omp_host.cpp.

static int omp_get_int_target (TARGET_TYPE *target_type*, int *target_number*, const char *f_name*)
[static]

Definition at line 60 of file offload_omp_host.cpp.

Referenced by kmp_get_affinity_max_proc_target(), kmp_get_blocktime_target(), kmp_get_library_target(), kmp_get_stacksize_s_target(), kmp_get_stacksize_target(), omp_get_dynamic_target(), omp_get_max_threads_target(), omp_get_nested_target(), and omp_get_num_procs_target().

int omp_get_max_threads_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 95 of file offload_omp_host.cpp.

int omp_get_nested_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 142 of file offload_omp_host.cpp.

int omp_get_num_devices (void)

Definition at line 29 of file offload_omp_host.cpp.

int omp_get_num_procs_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 104 of file offload_omp_host.cpp.

void omp_get_schedule_target (TARGET_TYPE *target_type*, int *target_number*, omp_sched_t *kind*, int *modifier*)

Definition at line 182 of file offload_omp_host.cpp.

void omp_init_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_lock_target_t *lock*)

Definition at line 215 of file offload_omp_host.cpp.

void omp_init_nest_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_nest_lock_target_t *lock*)

Definition at line 342 of file offload_omp_host.cpp.

void omp_set_default_device (int *num*)

Definition at line 17 of file offload_omp_host.cpp.

void omp_set_dynamic_target (TARGET_TYPE *target_type*, int *target_number*, int *num_threads*)

Definition at line 113 of file `offload_omp_host.cpp`.

static void omp_set_int_target (TARGET_TYPE *target_type*, int *target_number*, int *setting*, const char *f_name*) [static]

Definition at line 37 of file `offload_omp_host.cpp`.

Referenced by `kmp_set_blocktime_target()`, `kmp_set_library_target()`, `kmp_set_stacksize_s_target()`, `kmp_set_stacksize_target()`, `omp_set_dynamic_target()`, `omp_set_nested_target()`, and `omp_set_num_threads_target()`.

void omp_set_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_lock_target_t *lock*)

Definition at line 261 of file `offload_omp_host.cpp`.

void omp_set_nest_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_nest_lock_target_t *lock*)

Definition at line 388 of file `offload_omp_host.cpp`.

void omp_set_nested_target (TARGET_TYPE *target_type*, int *target_number*, int *nested*)

Definition at line 132 of file `offload_omp_host.cpp`.

void omp_set_num_threads_target (TARGET_TYPE *target_type*, int *target_number*, int *num_threads*)

Definition at line 85 of file `offload_omp_host.cpp`.

void omp_set_schedule_target (TARGET_TYPE *target_type*, int *target_number*, omp_sched_t *kind*, int *modifier*)

Definition at line 151 of file `offload_omp_host.cpp`.

int omp_test_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_lock_target_t *lock*)

Definition at line 307 of file `offload_omp_host.cpp`.

int omp_test_nest_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_nest_lock_target_t *lock*)

Definition at line 434 of file `offload_omp_host.cpp`.

void omp_unset_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_lock_target_t *lock*)

Definition at line 284 of file `offload_omp_host.cpp`.

void omp_unset_nest_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_nest_lock_target_t *lock*)

Definition at line 411 of file `offload_omp_host.cpp`.

7.32 offload_omp_target.cpp File Reference

```
#include <omp.h>
#include "offload.h"
#include "compiler_target.h"
```

Functions

- void `omp_set_default_device` (int num)
- int `omp_get_default_device` (void)
- int `omp_get_num_devices` ()
- static void `omp_send_int_to_host` (void ofld_, int setting)
- static int `omp_get_int_from_host` (void ofld_)
- void `omp_set_num_threads_lrb` (void ofld)
- void `omp_get_max_threads_lrb` (void ofld)
- void `omp_get_num_procs_lrb` (void ofld)
- void `omp_set_dynamic_lrb` (void ofld)
- void `omp_get_dynamic_lrb` (void ofld)
- void `omp_set_nested_lrb` (void ofld)
- void `omp_get_nested_lrb` (void ofld)
- void `omp_set_schedule_lrb` (void ofld_)
- void `omp_get_schedule_lrb` (void ofld_)
- void `omp_init_lock_lrb` (void ofld_)
- void `omp_destroy_lock_lrb` (void ofld_)
- void `omp_set_lock_lrb` (void ofld_)
- void `omp_unset_lock_lrb` (void ofld_)
- void `omp_test_lock_lrb` (void ofld_)
- void `omp_init_nest_lock_lrb` (void ofld_)
- void `omp_destroy_nest_lock_lrb` (void ofld_)
- void `omp_set_nest_lock_lrb` (void ofld_)
- void `omp_unset_nest_lock_lrb` (void ofld_)
- void `omp_test_nest_lock_lrb` (void ofld_)
- void `kmp_set_stacksize_lrb` (void ofld)
- void `kmp_get_stacksize_lrb` (void ofld)
- void `kmp_set_stacksize_s_lrb` (void ofld)
- void `kmp_get_stacksize_s_lrb` (void ofld)
- void `kmp_set_blocktime_lrb` (void ofld)
- void `kmp_get_blocktime_lrb` (void ofld)
- void `kmp_set_library_serial_lrb` (void ofld_)
- void `kmp_set_library_turnaround_lrb` (void ofld_)
- void `kmp_set_library_throughput_lrb` (void ofld_)
- void `kmp_set_library_lrb` (void ofld)
- void `kmp_get_library_lrb` (void ofld)
- void `kmp_set_defaults_lrb` (void ofld_)
- void `kmp_create_affinity_mask_lrb` (void ofld_)
- void `kmp_destroy_affinity_mask_lrb` (void ofld_)
- void `kmp_set_affinity_lrb` (void ofld_)
- void `kmp_get_affinity_lrb` (void ofld_)
- void `kmp_get_affinity_max_proc_lrb` (void ofld)
- void `kmp_set_affinity_mask_proc_lrb` (void ofld_)
- void `kmp_unset_affinity_mask_proc_lrb` (void ofld_)
- void `kmp_get_affinity_mask_proc_lrb` (void ofld_)
- void `omp_set_num_threads_target` (TARGET_TYPE target_type, int target_number, int num_threads)
- int `omp_get_max_threads_target` (TARGET_TYPE target_type, int target_number)
- int `omp_get_num_procs_target` (TARGET_TYPE target_type, int target_number)
- void `omp_set_dynamic_target` (TARGET_TYPE target_type, int target_number, int num_threads)
- int `omp_get_dynamic_target` (TARGET_TYPE target_type, int target_number)
- void `omp_set_nested_target` (TARGET_TYPE target_type, int target_number, int num_threads)
- int `omp_get_nested_target` (TARGET_TYPE target_type, int target_number)
- void `omp_set_schedule_target` (TARGET_TYPE target_type, int target_number, omp_sched_t kind, int modifier)

- void `omp_get_schedule_target` (`TARGET_TYPE` target_type, int target_number, `omp_sched_t` kind, int modifier)
- void `omp_init_lock_target` (`TARGET_TYPE` target_type, int target_number, `omp_lock_target_t` lock)
- void `omp_destroy_lock_target` (`TARGET_TYPE` target_type, int target_number, `omp_lock_target_t` lock)
- void `omp_set_lock_target` (`TARGET_TYPE` target_type, int target_number, `omp_lock_target_t` lock)
- void `omp_unset_lock_target` (`TARGET_TYPE` target_type, int target_number, `omp_lock_target_t` lock)
- int `omp_test_lock_target` (`TARGET_TYPE` target_type, int target_number, `omp_lock_target_t` lock)
- void `omp_init_nest_lock_target` (`TARGET_TYPE` target_type, int target_number, `omp_nest_lock_target_t` lock)
- void `omp_destroy_nest_lock_target` (`TARGET_TYPE` target_type, int target_number, `omp_nest_lock_target_t` lock)
- void `omp_set_nest_lock_target` (`TARGET_TYPE` target_type, int target_number, `omp_nest_lock_target_t` lock)
- void `omp_unset_nest_lock_target` (`TARGET_TYPE` target_type, int target_number, `omp_nest_lock_target_t` lock)
- int `omp_test_nest_lock_target` (`TARGET_TYPE` target_type, int target_number, `omp_nest_lock_target_t` lock)
- void `kmp_set_stacksize_target` (`TARGET_TYPE` target_type, int target_number, int size)
- int `kmp_get_stacksize_target` (`TARGET_TYPE` target_type, int target_number)
- void `kmp_set_stacksize_s_target` (`TARGET_TYPE` target_type, int target_number, `size_t` size)
- `size_t` `kmp_get_stacksize_s_target` (`TARGET_TYPE` target_type, int target_number)
- void `kmp_set_blocktime_target` (`TARGET_TYPE` target_type, int target_number, int time)
- int `kmp_get_blocktime_target` (`TARGET_TYPE` target_type, int target_number)
- void `kmp_set_library_serial_target` (`TARGET_TYPE` target_type, int target_number)
- void `kmp_set_library_turnaround_target` (`TARGET_TYPE` target_type, int target_number)
- void `kmp_set_library_throughput_target` (`TARGET_TYPE` target_type, int target_number)
- void `kmp_set_library_target` (`TARGET_TYPE` target_type, int target_number, int mode)
- int `kmp_get_library_target` (`TARGET_TYPE` target_type, int target_number)
- void `kmp_set_defaults_target` (`TARGET_TYPE` target_type, int target_number, char const defaults)
- void `kmp_create_affinity_mask_target` (`TARGET_TYPE` target_type, int target_number, `kmp_affinity_mask_target_t` mask)
- void `kmp_destroy_affinity_mask_target` (`TARGET_TYPE` target_type, int target_number, `kmp_affinity_mask_target_t` mask)
- int `kmp_set_affinity_target` (`TARGET_TYPE` target_type, int target_number, `kmp_affinity_mask_target_t` mask)
- int `kmp_get_affinity_target` (`TARGET_TYPE` target_type, int target_number, `kmp_affinity_mask_target_t` mask)
- int `kmp_get_affinity_max_proc_target` (`TARGET_TYPE` target_type, int target_number)
- int `kmp_set_affinity_mask_proc_target` (`TARGET_TYPE` target_type, int target_number, int proc, `kmp_affinity_mask_target_t` mask)
- int `kmp_unset_affinity_mask_proc_target` (`TARGET_TYPE` target_type, int target_number, int proc, `kmp_affinity_mask_target_t` mask)
- int `kmp_get_affinity_mask_proc_target` (`TARGET_TYPE` target_type, int target_number, int proc, `kmp_affinity_mask_target_t` mask)

7.32.1 Function Documentation

`void kmp_create_affinity_mask_lrb (void ofld_)`

Definition at line 518 of file `offload_omp_target.cpp`.

`void kmp_create_affinity_mask_target (TARGET_TYPE target_type, int target_number, kmp_affinity_mask_target_t mask)`

Definition at line 951 of file `offload_omp_target.cpp`.

`void kmp_destroy_affinity_mask_lrb (void ofld_)`

Definition at line 536 of file `offload_omp_target.cpp`.

```
void kmp_destroy_affinity_mask_target ( TARGET_TYPE target_type, int target_number,  
kmp_affinity_mask_target_t mask
```

int kmp_get_stacksize_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 866 of file offload_omp_target.cpp.

void kmp_set_affinity_lrb (void *ofld_*)

Definition at line 554 of file offload_omp_target.cpp.

void kmp_set_affinity_mask_proc_lrb (void *ofld_*)

Definition at line 612 of file offload_omp_target.cpp.

**int kmp_set_affinity_mask_proc_target (TARGET_TYPE *target_type*, int *target_number*, int *proc*,
kmp_affinity_mask_target_t *mask*)**

Definition at line 993 of file offload_omp_target.cpp.

**int kmp_set_affinity_target (TARGET_TYPE *target_type*, int *target_number*, kmp_affinity_mask_target_t
mask)**

Definition at line 967 of file offload_omp_target.cpp.

void kmp_set_blocktime_lrb (void *ofld_*)

Definition at line 425 of file offload_omp_target.cpp.

void kmp_set_blocktime_target (TARGET_TYPE *target_type*, int *target_number*, int *time*)

Definition at line 890 of file offload_omp_target.cpp.

void kmp_set_defaults_lrb (void *ofld_*)

Definition at line 498 of file offload_omp_target.cpp.

void kmp_set_defaults_target (TARGET_TYPE *target_type*, int *target_number*, char const *defaults*)

Definition at line 943 of file offload_omp_target.cpp.

void kmp_set_library_lrb (void *ofld_*)

Definition at line 478 of file offload_omp_target.cpp.

void kmp_set_library_serial_lrb (void *ofld_*)

Definition at line 445 of file offload_omp_target.cpp.

void kmp_set_library_serial_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 906 of file offload_omp_target.cpp.

void kmp_set_library_target (TARGET_TYPE *target_type*, int *target_number*, int *mode*)

Definition at line 927 of file offload_omp_target.cpp.

void kmp_set_library_throughput_lrb (void *ofld_*)

Definition at line 467 of file offload_omp_target.cpp.

void kmp_set_library_throughput_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 920 of file offload_omp_target.cpp.

void kmp_set_library_turnaround_lrb (void ofld)

Definition at line 456 of file offload_omp_target.cpp.

void kmp_set_library_turnaround_target (TARGET_TYPE target_type, int target_number)

Definition at line 913 of file offload_omp_target.cpp.

void kmp_set_stacksize_lrb (void ofld)

Definition at line 385 of file offload_omp_target.cpp.

void kmp_set_stacksize_s_lrb (void ofld)

Definition at line 405 of file offload_omp_target.cpp.

void kmp_set_stacksize_s_target (TARGET_TYPE target_type, int target_number, size_t size)

Definition at line 874 of file offload_omp_target.cpp.

void kmp_set_stacksize_target (TARGET_TYPE target_type, int target_number, int size)

Definition at line 858 of file offload_omp_target.cpp.

void kmp_unset_affinity_mask_proc_lrb (void ofld)

Definition at line 641 of file offload_omp_target.cpp.

int kmp_unset_affinity_mask_proc_target (TARGET_TYPE target_type, int target_number, int proc, kmp_affinity_mask_target_t mask)

Definition at line 1003 of file offload_omp_target.cpp.

void omp_destroy_lock_lrb (void ofld)

Definition at line 207 of file offload_omp_target.cpp.

void omp_destroy_lock_target (TARGET_TYPE target_type, int target_number, omp_lock_target_t lock)

Definition at line 784 of file offload_omp_target.cpp.

void omp_destroy_nest_lock_lrb (void ofld)

Definition at line 305 of file offload_omp_target.cpp.

void omp_destroy_nest_lock_target (TARGET_TYPE target_type, int target_number, omp_nest_lock_target_t lock)

Definition at line 825 of file offload_omp_target.cpp.

int omp_get_default_device (void)

Definition at line 21 of file offload_omp_target.cpp.

void omp_get_dynamic_lrb (void ofld)

Definition at line 109 of file offload_omp_target.cpp.

int omp_get_dynamic_target (TARGET_TYPE target_type, int target_number)

Definition at line 734 of file offload_omp_target.cpp.

static int omp_get_int_from_host (void *ofld*) [static]

Definition at line 50 of file `offload_omp_target.cpp`.

Referenced by `kmp_set_blocktime_lrb()`, `kmp_set_library_lrb()`, `kmp_set_stacksize_lrb()`, `kmp_set_stacksize_s_lrb()`, `omp_set_dynamic_lrb()`, `omp_set_nested_lrb()`, and `omp_set_num_threads_lrb()`.

void omp_get_max_threads_lrb (void *ofld*)

Definition at line 79 of file `offload_omp_target.cpp`.

int omp_get_max_threads_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 710 of file `offload_omp_target.cpp`.

void omp_get_nested_lrb (void *ofld*)

Definition at line 129 of file `offload_omp_target.cpp`.

int omp_get_nested_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 750 of file `offload_omp_target.cpp`.

int omp_get_num_devices (void)

Definition at line 26 of file `offload_omp_target.cpp`.

void omp_get_num_procs_lrb (void *ofld*)

Definition at line 89 of file `offload_omp_target.cpp`.

int omp_get_num_procs_target (TARGET_TYPE *target_type*, int *target_number*)

Definition at line 718 of file `offload_omp_target.cpp`.

void omp_get_schedule_lrb (void *ofld*)

Definition at line 163 of file `offload_omp_target.cpp`.

void omp_get_schedule_target (TARGET_TYPE *target_type*, int *target_number*, omp_sched.t *kind*, int *modifier*)

Definition at line 767 of file `offload_omp_target.cpp`.

void omp_init_lock_lrb (void *ofld*)

Definition at line 189 of file `offload_omp_target.cpp`.

void omp_init_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_lock_target.t *lock*)

Definition at line 776 of file `offload_omp_target.cpp`.

void omp_init_nest_lock_lrb (void *ofld*)

Definition at line 287 of file `offload_omp_target.cpp`.

void omp_init_nest_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_nest_lock_target.t *lock*)

Definition at line 817 of file `offload_omp_target.cpp`.

static void omp_send_int_to_host (void *ofld_*, int *setting*) [static]

Definition at line 33 of file `offload_omp_target.cpp`.

Referenced by `kmp_get_affinity_max_proc_lrb()`, `kmp_get_blocktime_lrb()`, `kmp_get_library_lrb()`, `kmp_get_stacksize_lrb()`, `kmp_get_stacksize_s_lrb()`, `omp_get_dynamic_lrb()`, `omp_get_max_threads_lrb()`, `omp_get_nested_lrb()`, and `omp_get_num_procs_lrb()`.

void omp_set_default_device (int *num*)

Definition at line 17 of file `offload_omp_target.cpp`.

void omp_set_dynamic_lrb (void *ofld_*)

Definition at line 99 of file `offload_omp_target.cpp`.

void omp_set_dynamic.target (TARGET_TYPE *target_type*, int *target_number*, int *num_threads*)

Definition at line 726 of file `offload_omp_target.cpp`.

void omp_set_lock_lrb (void *ofld_*)

Definition at line 225 of file `offload_omp_target.cpp`.

void omp_set_lock.target (TARGET_TYPE *target_type*, int *target_number*, omp_lock_target_t *lock*)

Definition at line 792 of file `offload_omp_target.cpp`.

void omp_set_nest_lock_lrb (void *ofld_*)

Definition at line 323 of file `offload_omp_target.cpp`.

void omp_set_nest_lock.target (TARGET_TYPE *target_type*, int *target_number*, omp_nest_lock_target_t *lock*)

Definition at line 833 of file `offload_omp_target.cpp`.

void omp_set_nested_lrb (void *ofld_*)

Definition at line 119 of file `offload_omp_target.cpp`.

void omp_set_nested.target (TARGET_TYPE *target_type*, int *target_number*, int *num_threads*)

Definition at line 742 of file `offload_omp_target.cpp`.

void omp_set_num_threads_lrb (void *ofld_*)

Definition at line 69 of file `offload_omp_target.cpp`.

void omp_set_num_threads.target (TARGET_TYPE *target_type*, int *target_number*, int *num_threads*)

Definition at line 702 of file `offload_omp_target.cpp`.

void omp_set_schedule_lrb (void *ofld_*)

Definition at line 139 of file `offload_omp_target.cpp`.

void omp_set_schedule.target (TARGET_TYPE *target_type*, int *target_number*, omp_sched_t *kind*, int *modifier*)

Definition at line 758 of file `offload_omp_target.cpp`.

void omp_test_lock_lrb (void *ofld_*)

Definition at line 261 of file offload_omp_target.cpp.

int omp_test_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_lock_target_t *lock*)

Definition at line 808 of file offload_omp_target.cpp.

void omp_test_nest_lock_lrb (void *ofld_*)

Definition at line 359 of file offload_omp_target.cpp.

int omp_test_nest_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_nest_lock_target_t *lock*)

Definition at line 849 of file offload_omp_target.cpp.

void omp_unset_lock_lrb (void *ofld_*)

Definition at line 243 of file offload_omp_target.cpp.

void omp_unset_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_lock_target_t *lock*)

Definition at line 800 of file offload_omp_target.cpp.

void omp_unset_nest_lock_lrb (void *ofld_*)

Definition at line 341 of file offload_omp_target.cpp.

void omp_unset_nest_lock_target (TARGET_TYPE *target_type*, int *target_number*, omp_nest_lock_target_t *lock*)

Definition at line 841 of file offload_omp_target.cpp.

7.33 offload_orsl.cpp File Reference

```
#include "offload_orsl.h"
#include <stdlib.h>
#include "offload_host.h"
#include "or_sl -l i te/include/or_sl -l i te.h"
```

Namespaces

- [ORSL](#)

Functions

- void [ORSL::init](#) ()
- bool [ORSL::reserve](#) (int device)
- bool [ORSL::try_](#)

7.34 offload_orsl.h File Reference

Namespaces

- [ORSL](#)

Functions

- void [ORSL::init](#) ()
- bool [ORSL::reserve](#) (int device)
- bool [ORSL::try_reserve](#) (int device)
- void [ORSL::release](#) (int device)

7.35 offload_table.cpp File Reference

```
#include "offload_table.h"
#include "offload_common.h"
```

Functions

- void [omp_set_num_threads_lrb](#) (void)
- void [omp_get_max_threads_lrb](#) (void)
- void [omp_get_num_procs_lrb](#) (void)
- void [omp_set_dynamic_lrb](#) (void)
- void [omp_get_dynamic_lrb](#) (void)
- void [omp_set_nested_lrb](#) (void)
- void [omp_get_nested_lrb](#) (void)
- void [omp_set_schedule_lrb](#) (void)
- void [omp_get_schedule_lrb](#) (void)
- void [omp_init_lock_lrb](#) (void)
- void [omp_destroy_lock_lrb](#) (void)
- void [omp_set_lock_lrb](#) (void)
- void [omp_unset_lock_lrb](#) (void)
- void [omp_test_lock_lrb](#) (void)
- void [omp_init_nest_lock_lrb](#) (void)
- void [omp_destroy_nest_lock_lrb](#) (void)
- void [omp_set_nest_lock_lrb](#) (void)
- void [omp_unset_nest_lock_lrb](#) (void)
- void [omp_test_nest_lock_lrb](#) (void)
- void [kmp_set_stacksize_lrb](#) (void)
- void [kmp_get_stacksize_lrb](#) (void)
- void [kmp_set_stacksize_s_lrb](#) (void)
- void [kmp_get_stacksize_s_lrb](#) (void)
- void [kmp_set_blocktime_lrb](#) (void)
- void [kmp_get_blocktime_lrb](#) (void)
- void [kmp_set_library_serial_lrb](#) (void)
- void [kmp_set_library_turnaround_lrb](#) (void)
- void [kmp_set_library_throughput_lrb](#) (void)
- void [kmp_set_library_lrb](#) (void)
- void [kmp_get_library_lrb](#) (void)
- void [kmp_set_defaults_lrb](#) (void)
- void [kmp_create_affinity_mask_lrb](#) (void)
- void [kmp_destroy_affinity_mask_lrb](#) (void)
- void [kmp_set_affinity_lrb](#) (void)

- void [kmp_get_affinity_lrb](#) (void)
- void [kmp_get_affinity_max_proc_lrb](#) (void)
- void [kmp_set_affinity_mask_proc_lrb](#) (void)
- void [kmp_unset_affinity_mask_proc_lrb](#) (void)
- void [kmp_get_affinity_mask_lrb](#) (void)
- void [__offload_register_tables](#) (FuncList::Node entry_table, FuncList::Node func_table, VarList::Node var_table)
- void [__offload_unregister_tables](#) (FuncList::Node entry_table, FuncList::Node func_table, VarList::Node var_table)

Variables

- static [FuncTable::Entry predefined_entries](#) []
- static FuncList::Node [predefined_table](#)
- [FuncList __offload_funcs](#)
- [VarList __offload_vars](#)

7.35.1 Function Documentation

void __offload_register_tables (FuncList::Node entry_table, FuncList::Node func_table, VarList::Node var_table)

Definition at line 344 of file `offload_table.cpp`.

Referenced by `offload_init()`.

void __offload_unregister_tables (FuncList::Node entry_table, FuncList::Node func_table, VarList::Node var_table)

Definition at line 362 of file `offload_table.cpp`.

Referenced by `offload_fini()`.

void kmp_create_affinity_mask_lrb (void)

Definition at line 518 of file `offload_omp_target.cpp`.

void kmp_destroy_affinity_mask_lrb (void)

Definition at line 536 of file `offload_omp_target.cpp`.

void kmp_get_affinity_lrb (void)

Definition at line 578 of file `offload_omp_target.cpp`.

void kmp_get_affinity_mask_proc_lrb (void)

Definition at line 670 of file `offload_omp_target.cpp`.

void kmp_get_affinity_max_proc_lrb (void)

Definition at line 602 of file `offload_omp_target.cpp`.

void kmp_get_blocktime_lrb (void)

Definition at line 435 of file `offload_omp_target.cpp`.

void kmp_get_library_lrb (void)

Definition at line 488 of file `offload_omp_target.cpp`.

void kmp_get_stacksize_lrb (void)

Definition at line 395 of file offload_omp_target.cpp.

void kmp_get_stacksize_s_lrb (void)

Definition at line 415 of file offload_omp_target.cpp.

void kmp_set_affinity_lrb (void)

Definition at line 554 of file offload_omp_target.cpp.

void kmp_set_affinity_mask_proc_lrb (void)

Definition at line 612 of file offload_omp_target.cpp.

void kmp_set_blocktime_lrb (void)

Definition at line 425 of file offload_omp_target.cpp.

void kmp_set_defaults_lrb (void)

Definition at line 498 of file offload_omp_target.cpp.

void kmp_set_library_lrb (void)

Definition at line 478 of file offload_omp_target.cpp.

void kmp_set_library_serial_lrb (void)

Definition at line 445 of file offload_omp_target.cpp.

void kmp_set_library_throughput_lrb (void)

Definition at line 467 of file offload_omp_target.cpp.

void kmp_set_library_turnaround_lrb (void)

Definition at line 456 of file offload_omp_target.cpp.

void kmp_set_stacksize_lrb (void)

Definition at line 385 of file offload_omp_target.cpp.

void kmp_set_stacksize_s_lrb (void)

Definition at line 405 of file offload_omp_target.cpp.

void kmp_unset_affinity_mask_proc_lrb (void)

Definition at line 641 of file offload_omp_target.cpp.

void omp_destroy_lock_lrb (void)

Definition at line 207 of file offload_omp_target.cpp.

void omp_destroy_nest_lock_lrb (void)

Definition at line 305 of file offload_omp_target.cpp.

void omp_get_dynamic_lrb (void)

Definition at line 109 of file offload_omp_target.cpp.

void omp_get_max_threads_lrb (void)

Definition at line 79 of file offload_omp_target.cpp.

void omp_get_nested_lrb (void)

Definition at line 129 of file offload_omp_target.cpp.

void omp_get_num_procs_lrb (void)

Definition at line 89 of file offload_omp_target.cpp.

void omp_get_schedule_lrb (void)

Definition at line 163 of file offload_omp_target.cpp.

void omp_init_lock_lrb (void)

Definition at line 189 of file offload_omp_target.cpp.

void omp_init_nest_lock_lrb (void)

Definition at line 287 of file offload_omp_target.cpp.

void omp_set_dynamic_lrb (void)

Definition at line 99 of file offload_omp_target.cpp.

void omp_set_lock_lrb (void)

Definition at line 225 of file offload_omp_target.cpp.

void omp_set_nest_lock_lrb (void)

Definition at line 323 of file offload_omp_target.cpp.

void omp_set_nested_lrb (void)

Definition at line 119 of file offload_omp_target.cpp.

void omp_set_num_threads_lrb (void)

Definition at line 69 of file offload_omp_target.cpp.

void omp_set_schedule_lrb (void)

Definition at line 139 of file offload_omp_target.cpp.

void omp_test_lock_lrb (void)

Definition at line 261 of file offload_omp_target.cpp.

void omp_test_nest_lock_lrb (void)

Definition at line 359 of file offload_omp_target.cpp.

void omp_unset_lock_lrb (void)

Definition at line 243 of file offload_omp_target.cpp.

void omp_unset_nest_lock_lrb (void)

Definition at line 341 of file offload_omp_target.cpp.

7.35.2 Variable Documentation

FuncList __offload_funcs

Definition at line 161 of file offload_table.cpp.

Referenced by `Marshaller::receive_func_ptr()`, `Marshaller::send_func_ptr()`, and `OffloadDescriptor::setup_descriptors()`.

VarList __offload_vars

Definition at line 164 of file offload_table.cpp.

Referenced by `Engine::init_ptr_data()`, `server_var_table_copy()`, and `server_var_table_size()`.

FuncTable::Entry predefined_entries[] [static]

Definition at line 61 of file offload_table.cpp.

FuncList __offload_entries & predefined_table [static]

Initial value:

```
= {
    { predefined_entries, -1 },
    0, 0
}
```

Definition at line 149 of file offload_table.cpp.

7.36 offload_table.h File Reference

Function and Variable tables used by the runtime library.

```
#include <iterator>
#include "offload_util.h"
```

Classes

- class `TableList< T >`
- struct `TableList< T >::Node`
- struct `FuncTable`
- struct `FuncTable::Entry`

Function table entry.

- class `FuncList`
- struct `VarTable`
- struct `VarTable::Entry`

Variable table entry.

- class `VarList`
- class `VarList::Iterator`
- struct `VarList::BufEntry`

Macros

- `#define OFFLOAD_ENTRY_TABLE_SECTION_START ".OffloadEntryTable."`
- `#define OFFLOAD_ENTRY_TABLE_SECTION_END ".OffloadEntryTable."`
- `#define OFFLOAD_FUNC_TABLE_SECTION_START ".OffloadFuncTable."`
- `#define OFFLOAD_FUNC_TABLE_SECTION_END ".OffloadFuncTable."`
- `#define OFFLOAD_VAR_TABLE_SECTION_START ".OffloadVarTable."`
- `#define OFFLOAD_VAR_TABLE_SECTION_END ".OffloadVarTable."`

Functions

- `void __offload_register_tables (FuncList::Node entry_table, FuncList::Node func_table, VarList::Node var_table)`
- `void __offload_unregister_tables (FuncList::Node entry_table, FuncList::Node func_table, VarList::Node var_table)`

Variables

- `FuncList __offload_entries`
- `FuncList __offload_funcs`
- `VarList __offload_vars`

7.36.1 Detailed Description

Function and Variable tables used by the runtime library.

Definition in file [offload_table.h](#).

7.36.2 Macro Definition Documentation

`#define OFFLOAD_ENTRY_TABLE_SECTION_END ".OffloadEntryTable."`

Definition at line 270 of file [offload_table.h](#).

`#define OFFLOAD_ENTRY_TABLE_SECTION_START ".OffloadEntryTable."`

Definition at line 269 of file [offload_table.h](#).

`#define OFFLOAD_FUNC_TABLE_SECTION_END ".OffloadFuncTable."`

Definition at line 273 of file [offload_table.h](#).

`#define OFFLOAD_FUNC_TABLE_SECTION_START ".OffloadFuncTable."`

Definition at line 272 of file [offload_table.h](#).

`#define OFFLOAD_VAR_TABLE_SECTION_END ".OffloadVarTable."`

Definition at line 276 of file [offload_table.h](#).

`#define OFFLOAD_VAR_TABLE_SECTION_START ".OffloadVarTable."`

Definition at line 275 of file [offload_table.h](#).

7.36.3 Function Documentation

`void __offload_register_tables (FuncList::Node entry_table, FuncList::Node func_table, VarList::Node var_table)`

Definition at line 344 of file [offload_table.cpp](#).

Referenced by [offload_init\(\)](#).

```
void __offload_unregister_tables ( FuncList::Node  entry_table, FuncList::Node  func_table,
VarList::Node  var_table )
```

Definition at line 362 of file offload_table.cpp.

Referenced by offload_fini().

7.36.4 Variable Documentation

FuncList __offload_entries

Referenced by OffloadDescriptor::offload().

FuncList __offload_funcs

Definition at line 161 of file offload_table.cpp.

Referenced by Marshaller::receive_func_ptr(), Marshaller::send_func_ptr(), and OffloadDescriptor::setup_descriptors().

VarList __offload_vars

Definition at line 164 of file offload_table.cpp.

Referenced by Engine::init_ptr_data(), server_var_table_copy(), and server_var_table_size().

7.37 offload_target.cpp File Reference

```
#include "offload_target.h"
#include <stdlib.h>
#include <unistd.h>
#include <omp.h>
#include <map>
```

Typedefs

- typedef void([offload_func_with_parms](#))(void)

Functions

- void [__offload_target_init](#) (void)
- int [_Offload_number_of_devices](#) (void)
- int [_Offload_get_device_number](#) (void)
- int [_Offload_get_physical_device_number](#) (void)

Variables

- const char [prefix](#)
- int [console_enabled](#) = 0
- int [offload_report_level](#) = 0
- static const char [vardesc_direction_as_string](#) []
- static const char [vardesc_type_as_string](#) []
- int [mic_index](#) = -1
- int [mic_engines_total](#) = -1
- uint64_t [mic_frequency](#) = 0
- int [offload_number](#) = 0
- static std::map< void
 , [RefInfo](#) > [ref_data](#)
- static [mutex_t](#) [add_ref_lock](#)

7.37.1 Typedef Documentation

typedef void(offload_func_with_parms)(void)

Definition at line 24 of file offload_target.cpp.

7.37.2 Function Documentation

void __offload_target_init (void)

Definition at line 718 of file offload_target.cpp.

Referenced by OFFLOAD_TARGET_MAIN().

int _Offload_get_device_number (void)

Definition at line 744 of file offload_target.cpp.

int _Offload_get_physical_device_number (void)

Definition at line 749 of file offload_target.cpp.

int _Offload_number_of_devices (void)

Definition at line 739 of file offload_target.cpp.

7.37.3 Variable Documentation

mutex_t add_ref_lock [static]

Definition at line 61 of file offload_target.cpp.

int console.enabled = 0

Definition at line 28 of file offload_target.cpp.

Referenced by Engine::init_device(), OffloadDescriptor::offload(), Marshaller::receive_func_ptr(), Marshaller::send_func_ptr(), and server_init().

int mic_engines_total = -1

Definition at line 57 of file offload_target.cpp.

Referenced by _Offload_number_of_devices().

uint64_t mic_frequency = 0

Definition at line 58 of file offload_target.cpp.

Referenced by __offload_target_init().

int mic.index = -1

Definition at line 56 of file offload_target.cpp.

Referenced by _Offload_get_device_number(), offload_stage(), omp_get_default_device(), and server_init().

int offload_number = 0

Definition at line 59 of file offload_target.cpp.

Referenced by OffloadDescriptor::offload().

int offload_report_level = 0

Definition at line 29 of file offload_target.cpp.

Referenced by __offload_init_library_once(), Engine::init_device(), OffloadDescriptor::offload(), server_init(), and OffloadDescriptor::setup_misc_data().

const char prefix

Definition at line 27 of file offload_target.cpp.

Referenced by `__offload_target_init()`, `offload_signal()`, and `offload_stage()`.

std::map<void , RefInfo > ref_data [static]

Definition at line 60 of file offload_target.cpp.

Referenced by `OffloadDescriptor::scatter_copyin_data()`.

const char vardesc_direction_as_string[] [static]

Initial value:

```
= {
    "NOCOPY",
    "IN",
    "OUT",
    "INOUT"
}
```

Definition at line 32 of file offload_target.cpp.

Referenced by `OffloadDescriptor::merge_var_descs()`.

const char vardesc_type_as_string[] [static]

Initial value:

```
= {
    "unknown",
    "data",
    "data_ptr",
    "func_ptr",
    "void_ptr",
    "string_ptr",
    "dv",
    "dv_data",
    "dv_data_slice",
    "dv_ptr",
    "dv_ptr_data",
    "dv_ptr_data_slice",
    "cean_var",
    "cean_var_ptr",
    "c.data_ptr_array"
}
```

Definition at line 38 of file offload_target.cpp.

Referenced by `OffloadDescriptor::merge_var_descs()`.

7.38 offload_target.h File Reference

```
#include "offload_common.h"
```

```
#include "coi/coi_server.h"
```

Classes

- class [OffloadDescriptor](#)
- struct [RefInfo](#)

Functions

- void [__offload_target_init](#) (void)

Variables

- int [mic_index](#)
- int [mic_engines_total](#)
- uint64_t [mic_frequency](#)

7.38.1 Function Documentation

void __offload_target_init (void)

Definition at line 718 of file `offload_target.cpp`.

Referenced by `OFFLOAD_TARGET_MAIN()`.

7.38.2 Variable Documentation

int mic_engines_total

Definition at line 118 of file `offload_host.cpp`.

Referenced by `__offload_fini_library()`, `__offload_init_library()`, `__offload_init_library_once()`, `__offload_myofini()`, `__offload_myoinit_once()`, `__offload_myolsAvailable()`, `__offload_register_image()`, `_Offload_number_of_devices()`, `_Offload_signaled()`, `Engine::init_device()`, `OFFLOAD_TARGET_ACQUIRE()`, `OFFLOAD_TARGET_ACQUIRE1()`, `omp_get_num_devices()`, `server_init()`, and `Thread:: Thread()`.

uint64_t mic_frequency

Definition at line 58 of file `offload_target.cpp`.

Referenced by `__offload_target_init()`.

int mic_index

Definition at line 56 of file `offload_target.cpp`.

7.39 offload_target_main.cpp File Reference

Functions

- void [__offload_target_main](#) (void)
- int [main](#) (int argc, char * argv)

7.39.1 Function Documentation

void __offload_target_main (void)

Referenced by `main()`.

int main (int argc, char * argv)

Definition at line 13 of file `offload_target_main.cpp`.

7.40 offload_timer.h File Reference

```
#include <stdio.h>
#include <stdarg.h>
#include <stdint.h>
#include "liboffload_error_codes.h"
```

Macros

- `#define OFFLOAD_TIMER_START(...)`
- `#define OFFLOAD_TIMER_STOP(...)`
- `#define OFFLOAD_TIMER_INIT(...)`
- `#define OFFLOAD_TIMER_TARGET_DATA(...)`
- `#define OFFLOAD_TIMER_DATALEN(...) (0)`

Variables

- `int timer_enabled`

7.40.1 Macro Definition Documentation

`#define OFFLOAD_TIMER_DATALEN(...) (0)`

Definition at line 168 of file `offload_timer.h`.

Referenced by `OffloadDescriptor::offload()`, `OffloadDescriptor::scatter_copyout_data()`, and `OffloadDescriptor::setup_misc_data()`.

`#define OFFLOAD_TIMER_INIT(...)`

Definition at line 166 of file `offload_timer.h`.

Referenced by `OffloadDescriptor::offload()`, `OFFLOAD_TARGET_ACQUIRE()`, and `OFFLOAD_TARGET_ACQUIRE1()`.

`#define OFFLOAD_TIMER_START(...)`

Definition at line 164 of file `offload_timer.h`.

Referenced by `OffloadDescriptor::gather_copyout_data()`, `OffloadDescriptor::offload()`, `OFFLOAD_TARGET_ACQUIRE()`, `OFFLOAD_TARGET_ACQUIRE1()`, and `OffloadDescriptor::scatter_copyin_data()`.

`#define OFFLOAD_TIMER_STOP(...)`

Definition at line 165 of file `offload_timer.h`.

Referenced by `OffloadDescriptor::cleanup()`, `OffloadDescriptor::gather_copyout_data()`, `OffloadDescriptor::offload()`, `OFFLOAD_TARGET_ACQUIRE()`, `OFFLOAD_TARGET_ACQUIRE1()`, and `OffloadDescriptor::scatter_copyin_data()`.

`#define OFFLOAD_TIMER_TARGET_DATA(...)`

Definition at line 167 of file `offload_timer.h`.

Referenced by `OffloadDescriptor::offload()`, and `OffloadDescriptor::scatter_copyout_data()`.

7.40.2 Variable Documentation

`int timer_enabled`

Definition at line 24 of file `offload_timer_host.cpp`.

Referenced by `__offload_init_library_once()`, `__offload_unregister_image()`, `OffloadDescriptor::offload()`, and `OffloadDescriptor::setup_misc_data()`.

7.41 offload_timer_host.cpp File Reference

```
#include "offload_timer.h"
#include <x86intrin.h>
#include "offload_host.h"
#include <sstream>
#include <iostream>
#include <iomanip>
```

Variables

- int `timer_enabled` = 0

7.41.1 Variable Documentation

`int timer_enabled = 0`

Definition at line 24 of file `offload_timer_host.cpp`.

7.42 offload_timer_target.cpp File Reference

```
#include "offload_timer.h"
#include "offload_target.h"
#include <x86intrin.h>
```

Variables

- int `timer_enabled` = 0

7.42.1 Variable Documentation

`int timer_enabled = 0`

Definition at line 22 of file `offload_timer_target.cpp`.

Referenced by `__offload_init_library_once()`, `__offload_unregister_image()`, `OffloadDescriptor::offload()`, and `OffloadDescriptor::setup_misc_data()`.

7.43 offload_trace.cpp File Reference

```
#include "offload_trace.h"
#include <stdio.h>
#include <stdlib.h>
#include <stdint.h>
#include <sstream>
#include "liboffload_error_codes.h"
```

Functions

- static const char `offload_stage` (std::stringstream &ss, int `offload_number`, const char tag, const char text, bool print_tag)
- static const char `offload_signal` (std::stringstream &ss, int `offload_number`, const char tag, const char text)
- void `offload_stage_print` (int stage, int `offload_number`,...)

Variables

- const char `prefix`
- int `mic_index`

7.43.1 Function Documentation

static const char offload_signal (std::stringstream & ss, int *offload_number*, const char *tag*, const char *text*) [static]

Definition at line 56 of file offload_trace.cpp.

Referenced by offload_stage_print().

static const char offload_stage (std::stringstream & ss, int *offload_number*, const char *tag*, const char *text*, bool *print_tag*) [static]

Definition at line 26 of file offload_trace.cpp.

Referenced by offload_stage_print().

void offload_stage_print (int *stage*, int *offload_number*, ...)

Definition at line 70 of file offload_trace.cpp.

7.43.2 Variable Documentation

int `mic_index`

Definition at line 56 of file offload_target.cpp.

Referenced by _Offload_get_device_number(), and offload_stage().

const char `prefix`

Definition at line 81 of file offload_host.cpp.

Referenced by _offload_init_library_once(), _offload_target_init(), offload_signal(), and offload_stage().

7.44 offload_trace.h File Reference

Enumerations

- enum `OffloadTraceStage` *f*
`c_offload_start` = 0, `c_offload_init`, `c_offload_register`, `c_offload_init_func`,
`c_offload_create_buf_host`, `c_offload_create_buf_mic`, `c_offload_send_pointer_data`, `c_offload_sent_pointer_data`,
`c_offload_gather_copyin_data`, `c_offload_copyin_data`, `c_offload_compute`, `c_offload_receive_pointer_data`,
`c_offload_received_pointer_data`, `c_offload_start_target_func`, `c_offload_var`, `c_offload_scatter_copyin_data`,
`c_offload_gather_copyout_data`, `c_offload_scatter_copyout_data`, `c_offload_copyout_data`, `c_offload_signal`,
`c_offload_wait`, `c_offload_unregister`, `c_offload_destroy`, `c_offload_finish`,
`c_offload_myoinit`, `c_offload_myoregister`, `c_offload_mic_myshared`, `c_offload_mic_myofptr`,
`c_offload_myosharedmalloc`, `c_offload_myosharedfree`, `c_offload_myosharedalignedmalloc`, `c_offload_myosharedalignedfree`,
`c_offload_myoacquire`, `c_offload_myorelease`, `c_offload_myofini` *g*

Functions

- void `offload_stage_print` (int *stage*, int *offload_number*,...)

7.44.1 Enumeration Type Documentation

enum OffloadTraceStage

Enumerator

- c.offload_start*
- c.offload_init*
- c.offload_register*
- c.offload_init_func*
- c.offload_create_buf_host*
- c.offload_create_buf_mic*
- c.offload_send_pointer_data*
- c.offload_sent_pointer_data*
- c.offload_gather_copyin_data*
- c.offload_copyin_data*
- c.offload_compute*
- c.offload_receive_pointer_data*
- c.offload_received_pointer_data*
- c.offload_start_target_func*
- c.offload_var*
- c.offload_scatter_copyin_data*
- c.offload_gather_copyout_data*
- c.offload_scatter_copyout_data*
- c.offload_copyout_data*
- c.offload_signal*
- c.offload_wait*
- c.offload_unregister*
- c.offload_destroy*
- c.offload*

7.45 offload_util.cpp File Reference

```
#include "offload_util.h"
#include <errno.h>
#include "liboffload_error_codes.h"
```

Functions

- bool [__offload_parse_size_string](#) (const char str, uint64_t &new_size)
- bool [__offload_parse_int_string](#) (const char str, int64_t &value)
- void [DL_sym](#) (void handle, const char name, const char version)
- int64_t [get_el_value](#) (char base, int64_t offset, int64_t size)

7.45.1 Function Documentation

bool [__offload_parse_int_string](#) (const char str, int64_t &value)

Definition at line 90 of file offload_util.cpp.

Referenced by [__offload_init_library_once\(\)](#), and [ORSL::init\(\)](#).

bool [__offload_parse_size_string](#) (const char str, uint64_t &new_size)

Definition at line 32 of file offload_util.cpp.

Referenced by [__offload_init_library_once\(\)](#).

void [DL_sym](#) (void handle, const char name, const char version)

Definition at line 171 of file offload_util.cpp.

Referenced by [COI::init\(\)](#), and [MyoWrapper::LoadLibrary\(\)](#).

int64_t [get_el_value](#) (char base, int64_t offset, int64_t size)

Definition at line 185 of file offload_util.cpp.

Referenced by [OffloadDescriptor::ReadArrElements< T >::read_next\(\)](#).

7.46 offload_util.h File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <stdint.h>
#include <dlfcn.h>
#include <pthread.h>
```

Classes

- struct [mutex_t](#)
- struct [mutex_locker_t](#)

Macros

- #define [thread_key_create](#)(key, destructor) pthread_key_create((key), (destructor))
- #define [thread_key_delete](#)(key) pthread_key_delete(key)
- #define [thread_getspecific](#)(key) pthread_getspecific(key)
- #define [thread_setspecific](#)(key, value) pthread_setspecific(key, value)
- #define [DL_open](#)(path) dlopen((path), RTLD_NOW)
- #define [DL_close](#)(handle) dlclose(handle)

- #define [DL_addr](#)(addr, info) dladdr((addr), (info))
- #define [OFFLOAD_ONCE_CONTROL_INIT](#) PTHREAD_ONCE_INIT
- #define [__offload_run_once](#)(ctrl, func) pthread_once(ctrl, func)

Typedefs

- typedef pthread_once_t [OffloadOnceControl](#)

Functions

- void [DL_sym](#) (void handle, const char name, const char version)
- bool [__offload_parse_size_string](#) (const char str, uint64_t &new_size)
- bool [__offload_parse_int_string](#) (const char str, int64_t &value)
- int64_t [get_el_value](#) (char base, int64_t offset, int64_t size)

7.46.1 Macro Definition Documentation

#define [__offload_run_](#)

7.46.2 Typedef Documentation

`typedef pthread_once_t OffloadOnceControl`

Definition at line 135 of file `offload_util.h`.

7.46.3 Function Documentation

`bool __offload_parse_int_string (const char str, int64_t & value)`

Definition at line 90 of file `offload_util.cpp`.

Referenced by `__offload_init_library_once()`, and `ORSL::init()`.

`bool __offload_parse_size_string (const char str, uint64_t & new_size)`

Definition at line 32 of file `offload_util.cpp`.

Referenced by `__offload_init_library_once()`.

`void DL_sym (void handle, const char name, const char version)`

Definition at line 171 of file `offload_util.cpp`.

Referenced by `COL::init()`, and `MyoWrapper::LoadLibrary()`.

`int64_t get_el_value (char base, int64_t offset, int64_t size)`

Definition at line 185 of file `offload_util.cpp`.

Referenced by `OffloadDescriptor::ReadArrElements< T >::read_next()`.

7.47 ofldbbegin.cpp File Reference

```
#include "compiler_target.h"
#include "offload_target.h"
#include "offload_myo_target.h"
```

Macros

- `#define ALLOCATE(name) __attribute__((section(name)))`
- `#define DLL_LOCAL __attribute__((visibility("hidden")))`

Functions

- `int main (void)`
- `int MAIN__ (void)`
- `static void offload_fini ()`
- `static void offload_init () __attribute__((constructor(101)))`

Variables

- `static FuncTable::Entry __offload_entry_table_start = f0 g`
- `static FuncList::Node __offload_entry_node`
- `static FuncTable::Entry __offload_func_table_start = f0 g`
- `static FuncList::Node __offload_func_node`
- `static VarTable::Entry __offload_var_table_start = f0 g`
- `static VarList::Node __offload_var_node`

7.47.1 Macro Definition Documentation

```
#define ALLOCATE( name ) __attribute__((section(name)))
```

Definition at line 24 of file ofldbbegin.cpp.

```
#define DLL_LOCAL __attribute__((visibility("hidden")))
```

Definition at line 25 of file ofldbbegin.cpp.

7.47.2 Function Documentation

```
int main ( void )
```

Definition at line 37 of file ofldbbegin.cpp.

```
int MAIN__ ( void )
```

Definition at line 44 of file ofldbbegin.cpp.

```
static void offload_fini ( ) [static]
```

Definition at line 154 of file ofldbbegin.cpp.

Referenced by offload_init().

```
static void offload_init ( ) [static]
```

Definition at line 131 of file ofldbbegin.cpp.

7.47.3 Variable Documentation

```
FuncList::Node __offload_entry_node [static]
```

Initial value:

```
= {
    { &__offload_entry_table_start + 1, -1 },
    0, 0
}
```

Definition at line 59 of file ofldbbegin.cpp.

```
FuncTable::Entry __offload_entry_table_start = 0 [static]
```

Definition at line 56 of file ofldbbegin.cpp.

```
FuncList::Node __offload_func_node [static]
```

Initial value:

```
= {
    { &__offload_func_table_start + 1, -1 },
    0, 0
}
```

Definition at line 72 of file ofldbbegin.cpp.

```
FuncTable::Entry __offload_func_table_start = 0 [static]
```

Definition at line 69 of file ofldbbegin.cpp.

VarList::Node __offload_var_node [static]

Initial value:

```
= {
    { &__offload_var_table_start + 1 },
    0, 0
}
```

Definition at line 85 of file ofldbegin.cpp.

VarTable::Entry __offload_var_table_start = f0 g [static]

Definition at line 82 of file ofldbegin.cpp.

7.48 ofldend.cpp File Reference

```
#include "offload_target.h"
#include "offload_my_target.h"
```

Macros

- #define **ALLOCATE**(name) __attribute__((section(name)))

Variables

- static **FuncTable::Entry __offload_entry_table_end** = f(const char)-1 g
- static **FuncTable::Entry __offload_func_table_end** = f(const char)-1 g
- static **VarTable::Entry __offload_var_table_end** = f(const char)-1 g

7.48.1 Macro Definition Documentation

```
#define ALLOCATE( name ) __attribute__((section(name)))
```

Definition at line 22 of file ofldend.cpp.

7.48.2 Variable Documentation

FuncTable::Entry __offload_entry_table_end = f(const char)-1 g **[static]**

Definition at line 30 of file ofldend.cpp.

FuncTable::Entry __offload_func_table_end = f(const char)-1 g **[static]**

Definition at line 37 of file ofldend.cpp.

VarTable::Entry __offload_var_table_end = f(const char)-1 g **[static]**

Definition at line 44 of file ofldend.cpp.

7.49 orsl-lite/include/orsl-lite.h File Reference

```
#include <sched.h>
```

Classes

- struct **ORSLBusySet**

Macros

- `#define ORSL_MAX_TAG_LEN 128`
- `#define ORSL_MAX_CARDS 32`

Typedefs

- `typedef enum ORSLBusySetType BusySetType`
- `typedef struct ORSLBusySet ORSLBusySet`
- `typedef char ORSLTag`
- `typedef enum ORSLPartialGranularity ORSLPartialGranularity`

Enumerations

- `enum ORSLBusySetType` f `BUSY_SET_EMPTY = 0`, `BUSY_SET_PARTIAL = 1`, `BUSY_SET_FULL = 2` g
- `enum ORSLPartialGranularity` f `GRAN_CARD = 0`, `GRAN_THREAD = 1` g

Functions

- `int ORSLReserve` (`const int n`, `const int __restrict inds`, `const ORSLBusySet __restrict bsets`, `const ORSLTag __restrict tag`)
- `int ORSLTryReserve` (`const int n`, `const int __restrict inds`, `const ORSLBusySet __restrict bsets`, `const ORSLTag __restrict tag`)
- `int ORSLReservePartial` (`const ORSLPartialGranularity gran`, `const int n`, `const int __restrict inds`, `ORSLBusySet __restrict bsets`, `const ORSLTag __restrict tag`)
- `int ORSLRelease` (`const int n`, `const int __restrict inds`, `const ORSLBusySet __restrict bsets`, `const ORSLTag __restrict tag`)

7.49.1 Macro Definition Documentation

`#define ORSL_MAX_CARDS 32`

Maximal number of cards that can be managed by `ORSL`

Definition at line 51 of file `orl-lite.h`.

Referenced by `check_args()`.

`#define ORSL_MAX_TAG_LEN 128`

Maximal length of tag in characters

Definition at line 48 of file `orl-lite.h`.

Referenced by `can_release_card()`, `can_reserve_card()`, `check_args()`, `release_card()`, and `reserve_card()`.

7.49.2 Typedef Documentation

`typedef enum ORSLBusySetType BusySetType`

Type of a `ORSLBusySet`

`typedef struct ORSLBusySet ORSLBusySet`

`ORSLBusySet` encapsulation

`typedef enum ORSLPartialGranularity ORSLPartialGranularity`

Granularify of partial reservation

`typedef char ORSLTag`

Client tag

Definition at line 45 of file `orl-lite.h`.

7.49.3 Enumeration Type Documentation

enum ORSLBusySetType

Type of a [ORSLBusySet](#)

Enumerator

BUSY_SET_EMPTY Empty set

BUSY_SET_PARTIAL Non-empty set that omits some threads

BUSY_SET_FULL A set that includes all threads on the card

Definition at line 25 of file orsl-lite.h.

enum ORSLPartialGranularity

Granularity of partial reservation

Enumerator

GRAN_CARD Card granularity

GRAN_THREAD [Thread](#) granularity

Definition at line 128 of file orsl-lite.h.

7.49.4 Function Documentation

int ORSLRelease (const int *n*, const int __restrict *inds*, const ORSLBusySet __restrict *bsets*, const ORSLTag __restrict *tag*)

Releases previously reserved computational resources on a set of cards.

This function will fail if any of the resources to be released were not reserved by the calling client.

See Also

[ORSLReserve](#)

[ORSLTryReserve](#)

[ORSLReservePartial](#)

Parameters

i n	<i>n</i>	Number of cards to reserve resources on. Cannot be < 0 or > ORSL_MAX_CARDS.
i n	<i>inds</i>	Indices of the cards: an integer array with n elements. Cannot be NULL if n > 0. Valid card indices are from 0 to ORSL_MAX_CARDS-1. Cannot contain duplicate elements.
i n	<i>bsets</i>	Requested resources on each of the card. Cannot be NULL if n > 0.
i n	<i>tag</i>	ORSLTag of the calling client. Cannot be NULL. Length must not exceed ORSL_MAX_TAG_LEN.

Returns

0 if the resources were successfully released

EINVAL if any of the arguments is invalid

EPERM the calling client did not reserve some of the resources it is trying to release.

ENOSYS (in [ORSL Lite](#)) if type of any of the busy sets is equal to BUSY_SET_PARTIAL

Referenced by ORSL::release().

```
int ORSLReserve ( const int n, const int __restrict inds, const ORSLBusySet __restrict bsets, const ORSLTag __restrict tag )
```

Reserves computational resources on a set of cards. Blocks.

If any of the resources cannot be reserved, this function will block until they become available. Reservation can be recursive if performed by the same tag. A recursively reserved resource must be released the same number of times it was reserved.

See Also

[ORSLTryReserve](#)

Parameters

i n	<i>n</i>	Number of cards to reserve resources on. Cannot be < 0 or > ORSL_MAX_CARDS.
i n	<i>inds</i>	Indices of the cards: an integer array with <i>n</i> elements. Cannot be NULL if <i>n</i> > 0. Valid card indices are from 0 to ORSL_MAX_CARDS-1. Cannot contain duplicate elements.
i n	<i>bsets</i>	Requested resources on each of the card. Cannot be NULL if <i>n</i> > 0.
i n	<i>tag</i>	ORSLTag of the calling client. Cannot be NULL. Length must not exceed ORSL_MAX_TAG_LEN.

Returns

0 if the resources were successfully reserved
 EINVAL if any of the arguments is invalid
 EAGAIN limit of recursive reservations reached (not in [ORSL Lite](#))
 ENOSYS (in [ORSL Lite](#)) if type of any of the busy sets is equal to BUSY_SET_PARTIAL

Referenced by ORSL::reserve().

```
int ORSLReservePartial ( const ORSLPartialGranularity gran, const int n, const int __restrict inds, ORSLBusySet __restrict bsets, const ORSLTag __restrict tag )
```

Requests reservation of some of computational resources on a set of cards. Does not block. Updates user-provided *bsets* to indicate which resources were reserved.

If any of the resources cannot be reserved, this function will update busy sets provided by the caller to reflect what resources were actually reserved. This function supports two granularity modes: 'card' and 'thread'. When granularity is set to 'card', a failure to reserve a thread on the card will imply that reservation has failed for the whole card. When granularity is set to 'thread', reservation on a card will be considered successful as long as at least one thread on the card was successfully reserved. Reservation can be recursive if performed by the same tag. A recursively reserved resource must be released the same number of times it was reserved.

Parameters

i n	<i>gran</i>	Reservation granularity
i n	<i>n</i>	Number of cards to reserve resources on. Cannot be < 0 or > ORSL_MAX_CARDS.
i n	<i>inds</i>	Indices of the cards: an integer array with <i>n</i> elements. Cannot be NULL if <i>n</i> > 0. Valid card indices are from 0 to ORSL_MAX_CARDS-1. Cannot contain duplicate elements.
i n	<i>bsets</i>	Requested resources on each of the card. Cannot be NULL if <i>n</i> > 0.
i n	<i>tag</i>	ORSLTag of the calling client. Cannot be NULL. Length must not exceed ORSL_MAX_TAG_LEN.

Returns

0 if at least some of the resources were successfully reserved
 EBUSY if all of the requested resources are busy
 EINVAL if any of the arguments is invalid
 EAGAIN limit of recursive reservations reached (not in [ORSL Lite](#))
 ENOSYS (in [ORSL Lite](#)) if type of any of the busy sets is equal to BUSY_SET_PARTIAL

```
int ORSLTryReserve ( const int n, const int __restrict inds, const ORSLBusySet __restrict bsets, const ORSLTag __restrict tag )
```

Reserves computational resources on a set of cards. Does not block.

If any of the resources cannot be reserved, this function will return immediately. Reservation can be recursive if performed by the same tag. A recursively reserved resource must be released the same number of times it was reserved.

See Also

[ORSLReserve](#)

Parameters

<i>n</i>	<i>n</i>	Number of cards to reserve resources on. Cannot be < 0 or > ORSL_MAX_CARDS.
<i>inds</i>	<i>inds</i>	Indices of the cards: an integer array with <i>n</i> elements. Cannot be NULL if <i>n</i> > 0. Valid card indices are from 0 to ORSL_MAX_CARDS-1. Cannot contain duplicate elements.
<i>bsets</i>	<i>bsets</i>	Requested resources on each of the card. Cannot be NULL if <i>n</i> > 0.
<i>tag</i>	<i>tag</i>	ORSLTag of the calling client. Cannot be NULL. Length must not exceed ORSL_MAX_TAG_LEN.

Returns

0 if the resources were successfully reserved
 EBUSY if some of the requested resources are busy
 EINVAL if any of the arguments is invalid
 EAGAIN limit of recursive reservations reached (not in [ORSL Lite](#))
 ENOSYS (in [ORSL Lite](#)) if type of any of the busy sets is equal to BUSY_SET_PARTIAL

Referenced by `ORSL::try_reserve()`.

7.50 orsl-lite/lib/orsl-lite.c File Reference

```
#include <errno.h>
#include <string.h>
#include <limits.h>
#include <assert.h>
#include "orsl-lite/include/orsl-lite.h"
```

Macros

- #define [DISABLE_SYMBOL_VERSIONING](#)
- #define [ORSLReserve0](#) [ORSLReserve](#)
- #define [ORSLTryReserve0](#) [ORSLTryReserve](#)
- #define [ORSLReservePartial0](#) [ORSLReservePartial](#)
- #define [ORSLRelease0](#) [ORSLRelease](#)

Functions

- static int [state_lock](#) ()
- static int [state_unlock](#) ()
- static int [state_wait_for_release](#) ()
- static int [state_signal_release](#) ()
- static int [check_args](#) (const int *n*, const int __restrict *inds*, const [ORSLBusySet](#) __restrict *bsets*, const [ORSLTag](#) __restrict *tag*)
- static int [check_bsets](#) (const int *n*, const [ORSLBusySet](#) *bsets*)
- static int [can_reserve_card](#) (int *card*, const [ORSLBusySet](#) __restrict *bset*, const [ORSLTag](#) __restrict *tag*)

- static void `reserve_card` (int *card*, const `ORSLBusySet` __restrict *bset*, const `ORSLTag` __restrict *tag*)
- static int `can_release_card` (int *card*, const `ORSLBusySet` __restrict *bset*, const `ORSLTag` __restrict *tag*)
- static void `release_card` (int *card*, const `ORSLBusySet` __restrict *bset*, const `ORSLTag` __restrict *tag*)
- int `ORSLReserve0` (const int *n*, const int __restrict *inds*, const `ORSLBusySet` __restrict *bsets*, const `ORSLTag` __restrict *tag*)
- int `ORSLTryReserve0` (const int *n*, const int __restrict *inds*, const `ORSLBusySet` __restrict *bsets*, const `ORSLTag` __restrict *tag*)
- int `ORSLReservePartial0` (const `ORSLPartialGranularity` *gran*, const int *n*, const int __restrict *inds*, `ORSLBusySet` __restrict *bsets*, const `ORSLTag` __restrict *tag*)
- int `ORSLRelease0` (const int *n*, const int __restrict *inds*, const `ORSLBusySet` __restrict *bsets*, const `ORSLTag` __restrict *tag*)

Variables

- struct *f*
 - char *owner* [`ORSL_MAX_TAG_LEN`+1]
 - unsigned long *rsrv_cnt*
 - g* *rsrv_data* [`ORSL_MAX_CARDS`]

7.50.1 Macro Definition Documentation

#define DISABLE_SYMBOL_VERSIONING

Definition at line 18 of file orsl-lite.c.

#define ORSLRelease0 ORSLRelease

Definition at line 30 of file orsl-lite.c.

#define ORSLReserve0 ORSLReserve

Definition at line 27 of file orsl-lite.c.

#define ORSLReservePartial0 ORSLReservePartial

Definition at line 29 of file orsl-lite.c.

#define ORSLTryReserve0 ORSLTryReserve

Definition at line 28 of file orsl-lite.c.

7.50.2 Function Documentation

static int `can_release_card` (int *card*, .398 w 0 0 80

g

```
static int check_args ( const int n, const int __restrict inds, const ORSLBusySet __restrict bsets, const
ORSLTag __restrict tag ) [static]
```

Definition at line 113 of file orsl-lite.c.

Referenced by ORSLRelease0(), ORSLReserve0(), ORSLReservePartial0(), and ORSLTryReserve0().

```
static int check_bsets ( const int n, const ORSLBusySet bsets ) [static]
```

Definition at line 134 of file orsl-lite.c.

Referenced by ORSLRelease0(), ORSLReserve0(), ORSLReservePartial0(), and ORSLTryReserve0().

```
int ORSLRelease0 ( const int n, const int __restrict inds, const ORSLBusySet __restrict bsets, const
ORSLTag __restrict tag )
```

Definition at line 307 of file orsl-lite.c.

```
int ORSLReserve0 ( const int n, const int __restrict inds, const ORSLBusySet __restrict bsets, const
ORSLTag __restrict tag )
```

Definition at line 210 of file orsl-lite.c.

```
int ORSLReservePartial0 ( const ORSLPartialGranularity gran, const int n, const int __restrict inds,
ORSLBusySet __restrict bsets, const ORSLTag __restrict tag )
```

Definition at line 270 of file orsl-lite.c.

```
int ORSLTryReserve0 ( const int n, const int __restrict inds, const ORSLBusySet __restrict bsets, const
ORSLTag __restrict tag )
```

Definition at line 242 of file orsl-lite.c.

```
static void release_card ( int card, const ORSLBusySet __restrict bset, const ORSLTag __restrict tag )
[static]
```

Definition at line 192 of file orsl-lite.c.

Referenced by ORSLRelease0().

```
static void reserve_card ( int card, const ORSLBusySet __restrict bset, const ORSLTag __restrict tag )
[static]
```

Definition at line 157 of file orsl-lite.c.

Referenced by ORSLReserve0(), ORSLReservePartial0(), and ORSLTryReserve0().

```
static int state_lock ( ) [static]
```

Definition at line 60 of file orsl-lite.c.

Referenced by ORSLRelease0(), ORSLReserve0(), ORSLReservePartial0(), and ORSLTryReserve0().

```
static int state_signal_release ( ) [static]
```

Definition at line 96 of file orsl-lite.c.

Referenced by ORSLRelease0().

```
static int state_unlock ( ) [static]
```

Definition at line 72 of file orsl-lite.c.

Referenced by ORSLRelease0(), ORSLReserve0(), ORSLReservePartial0(), and ORSLTryReserve0().

static int state_wait_for_release () [static]

Definition at line 84 of file orsl-lite.c.

Referenced by ORSLReserve0().

7.50.3 Variable Documentation

char owner[ORSL_MAX_TAG_LEN+1]

Definition at line 109 of file orsl-lite.c.

Referenced by can_release_card(), can_reserve_card(), release_card(), and reserve_card().

unsigned long rsrv_cnt

Definition at line 110 of file orsl-lite.c.

Referenced by can_reserve_card(), release_card(), and reserve_card().

struct f... g rsrv_data[ORSL_MAX_CARDS] [static]

Referenced by can_release_card(), can_reserve_card(), release_card(), and reserve_card().

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msg_c_report_host_unmap0 0 1 163.158 761.2908e58 761.26 cm[]0 d 0 0.398 w 0 0 m 2.69 0 l SGBT/F45 8.9663 Tf96.48548

host(t)]T ETq1 0 0 174.8868470.6.226 cm[]0 d 0 0.398 w 0 0 m 2.69 0 l SGBT/F45 8.9663 Tf77.5757470.45361 Td pointerst

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c report

msg

msg

msg

c report host

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