# Intel® Inspector

## Addition: API usage

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# Custom memory allocation

```
#include <ittnotify.h>

__itt_heap_function my_allocator;
__itt_heap_function my_reallocator;
__itt_heap_function my_freer;

void* my_malloc(size_t s)
{
    void* p;

    __itt_heap_allocate_begin (my_allocator, s, 0);
    p = user_defined_malloc (s);
    __itt_heap_allocate_end (my_allocator, &p, s, 0);

    return p;
}
... // Do similar markup for custom “realloc” and “free” operations

// Call this init routine before any calls to user defined allocators
void init_itt_calls()
{
    my_allocator = __itt_heap_function_create("my_malloc", "mydomain");
    my_reallocator = __itt_heap_function_create("my_realloc", "mydomain");
    my_freer = __itt_heap_function_create("my_free", "mydomain");
}
```

# Collection control APIs

| API | Description |
| --- | --- |
| `void __itt_suppress_push(`<br>`  unsigned int etype)` | Stop analyzing for errors on the current thread |
| void __itt_suppress_pop (<br>void) | Resume analysis |
| void __itt_suppress_mark_range (<br>__itt_suppress_mode_t mode,<br>unsigned int etype,<br>void * address,<br>size_t size); | Suppress or unsuppress error detection for the specific memory range (object). |
| void __itt_suppress_clear_range (<br>__itt_suppress_mode_t mode,<br>unsigned int etype,<br>void * address,<br>size_t size); | Clear the marked memory range |

# User-Defined Synchronization APIs

| API | Description |
|---|---|
| `void __itt_sync_acquired(`<br>`  void *addr)` | Notify Intel Inspector that synchronization object is acquired by current thread |
| `void __itt_sync_releasing(`<br>`  void *addr)` | Notify that the code is about to release the specified synchronization object |
| `void __itt_sync_destroy(`<br>`  void *addr)` | Tell the Intel Inspector that the synchronization object will not be used again, so the Intel Inspector can dispose of bookkeeping information associated with this object. |

# Documentation

- API calls (user guide) https://www.intel.com/content/www/us/en/develop/documentation/inspector-user-guide-linux/top/api-support.html