**MRAPI API Specification V0.9.3**

**4.8.17 MRAPI\_ATOMIC\_LOCK (ABB Extension)**

**NAME**

mrapi\_atomic\_lock

**SYNOPSIS**

void mrapi\_atomic\_lock(

MRAPI\_OUT void\* sync, MRAPI\_IN void\* dest, MRAPI\_OUT void\* previous, MRAPI\_IN size\_t size, MRAPI\_OUT mrapi\_status\_t\* status

);

**DESCRIPTION**

mrapi\_atomic\_lock()performs integer exchange for the purposes of implementing an atomic lock. Atomic release is provided by mrapi\_atomic\_release(). The operation is only valid for memory locations within shared memory, where the synchronization can be across real-time processes. The integer value at destination address is written with constant 1 and the previous value returned if that argument is non-NULL. This is an acquire barrier that does not modify the destination until the integer value is 0. Different integer widths are supported based on the platform. The desired size is passed as input and returned status indicates if the operation succeeded.

**RETURN VALUE**

None.

**ERRORS**

|  |  |
| --- | --- |
| MRAPI\_ERR\_NODE\_NOTINIT | The calling node is not initialized |
| MRAPI\_ERR\_ATOM\_OP\_FAILED | The local atomic operation failed |
|  |  |

**NOTE**

Supported integer types:

Windows – uint32\_t

Unix - uint8\_t, uint16\_t, uint32\_t, uint64\_t

**SEE ALSO**