4.2.1 MRAPI_INITIALIZE

NAME

mrapi_initialize

SYNOPSIS

```
void mrapi_initialize(
  MRAPI_IN mrapi_domain_t domain_id,
  MRAPI_IN mrapi_node_t node_id,
  MRAPI_IN mrapi_parameters_t* mrapi_parameters,
  MRAPI_OUT mrapi_info_t* mrapi_info,
  MRAPI_OUT mrapi_status_t* status
);
```

DESCRIPTION

`mrapi_initialize()` initializes the MRAPI environment on a given MRAPI node in a given MRAPI domain. It has to be called by each node using MRAPI. `mrapi_parameters` is used to pass implementation specific initialization parameters. `mrapi_info` is used to obtain information from the MRAPI implementation, including MRAPI and the underlying implementation version numbers, implementation vendor identification, the number of nodes in the topology, the number of ports on the local node and vendor specific implementation information, see the header files for additional information. A node is a process, a thread, or a processor (or core) with an independent program counter running a piece of code. In other words, an MRAPI node is an independent thread of control. An MRAPI node can call `mrapi_initialize()` once per node, and it is an error to call `mrapi_initialize()` multiple times from a given node, unless `mrapi_finalize()` is called in between. A given MRAPI implementation will specify what is a node (i.e., what thread of control – process, thread, or other -- is a node) in that implementation. A thread and process are just two examples of threads of control, and there could be others.

RETURN VALUE

On success, `*status` is set to `MRAPI_SUCCESS`. On error, `*status` is set to the appropriate error defined below.

ERRORS

`MRAPI_ENO_INIT`	The MRAPI environment could not be initialized.
`MRAPI_ERR_NODE_INITIALIZED`	The MRAPI environment has already been initialized.
`MRAPI_ERR_NODE_INVALID`	The `node_id` parameter is not valid.
`MRAPI_ERR_DOMAIN_INVALID`	The `domain_id` parameter is not valid.
`MRAPI_ERR_PARAMETER`	Invalid mrapi_parameters or mrapi_info parameter.

NOTE

SEE ALSO

`mrapi_finalize()`