Data Sheet

High Integrity Safety
SIL Inter Application Communication Protocol

Inter Application Communication (IAC) is the variable communication between applications (both SIL and Non-SIL). IAC supports up to SIL3 peer-to-peer communication. Safe IAC (involving SIL applications in High Integrity controllers) is implemented according to the IEC 61508, IEC 61784-3 and ISO-13849-1 standards.

The communication using communication variables (IAC) is faster compared to the peer-to-peer communication using MMS function blocks.

Inter Application Communication

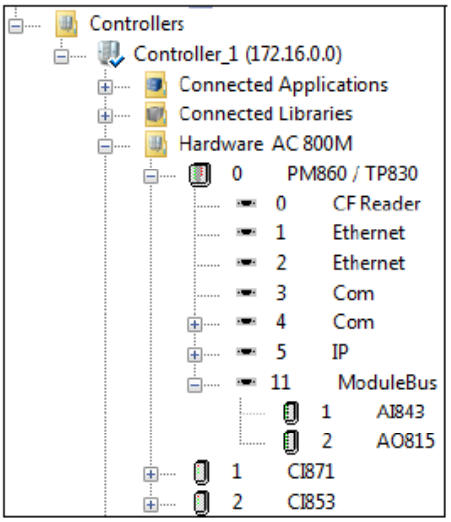
Inter Application Communication (IAC) is implemented in 800xA using communication variables. These variables are used for cyclic communication and are used in:

- Top level diagrams
- Programs
- Top level single control modules

They can exist in the same application, the same controller or in another controller (peer to peer).

Key Features

- Performance using communication variables is faster compared to MMS function blocks
- IAC supports up to SIL3 peer-to-peer and redundant communication
- Cyclic reading of data based on client-server concept
- Variables can be used for non-SIL, SIL1-2, and SIL3 applications
- Flexible configuration based on location of the in/out variables (application, controllers)
- Configurable interval times (shortest = 60 ms) used for communications between different applications in different controllers
- IP addresses for variables are either specified or resolved automatically



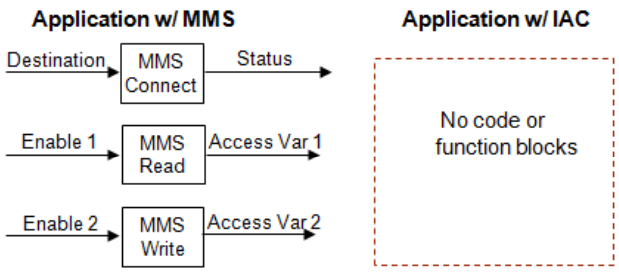
Performance Factors

By using IAC, the cyclic load and total load in the controller is reduced compared to using MMS function blocks for communication. The following factors impact the load:

- External Peer to Peer
- Communication within a controller
- Variable structure
- SIL

Simpler and Efficient Engineering

Engineering is significantly reduced through the use of IAC (as compared to MMS). Programming is now much simpler:



Declarations w/ MMS :
Access Var 1 => Local var
Access Var 2 => Local var
Enable 1
Enable 2
Destination
Status

Declarations w/ IAC:
Comm Var => Local var

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