

GASPI Proposal: Clarification of `gaspi_write_notify` Semantic

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As discussed in the last GASPI Forum's meeting on January 20th 2016, we propose to change the semantic of `gaspi_write_notify` as described in the "Implementor's Advice" of `gaspi_write_notify`:

[p. 76] The procedure is semantically equivalent to a call to `gaspi_write` and a subsequent call of `gaspi_notify`. However, it should be implemented more efficiently, if supported by the network infrastructure.

to a more fine-grained semantic.

Proposed Change

Problem:

`gaspi_write_notify` \equiv `gaspi_write`, `gaspi_notify`

\Rightarrow fence for all previous writes.

Proposed Change:

- ▶ notification coupled directly to this message
- ▶ imply nothing on previously posted writes.

Required Changes

Change in implementor advice p. 76 and p.80:

- ▶ *Implementor advice:* The procedure is not semantically equivalent to a call to `gaspi_write` and a subsequent call of `gaspi_notify`. A call to `gaspi_wite_notify` does not enforce an ordering relative to other `gaspi_write`, `gaspi_write_list`, `gaspi_write_list_notify` or `gaspi_write_notify` operations.
- ▶ *Implementor advice:* The procedure is not semantically equivalent to a call to `gaspi_write_list` and a subsequent call of `gaspi_notify`. This call does not enforce an ordering relative to other other `gaspi_write`, `gaspi_write_list`, `gaspi_write_list_notify` or `gaspi_write_notify` operations.

Additional proposed Change

In addition we propose the inclusion of the following user advices:

- ▶ *User advice:* In GASPI specification v16.1 and lower, the semantic of `gaspi_write_notify` was equivalent to `gaspi_write` followed by `gaspi_notify`. Due to the change in semantic, applications relying on the old semantic of `gaspi_write_notify` will have to replace their fencing `gaspi_write_notify` call with a `gaspi_write` followed by a `gaspi_notify`.
- ▶ *User advice:* In GASPI specification v16.1 and lower, the semantic of `gaspi_write_list_notify` was equivalent to `gaspi_write_list` followed by `gaspi_notify`. Due to the change in semantic, applications relying on the old semantic of `gaspi_write_list_notify` will have to replace their fencing `gaspi_write_list_notify` call with a `gaspi_write_list` followed by a `gaspi_notify`.