

**Title: AS8202NF Host View of Membership during Controller Acknowledgment Phase**

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**Subject: TASM Software / Specification Inconsistency**

**Description:**

Specification (SRD V1.1.2) of the membership behavior during the acknowledgment phase has been updated and is therefore inconsistent with the TASM software implementation 2.04.

**Detailed Description:**

In case of the first successor (*node B*) negative acknowledging a sender (*node A*) the specification requires the flag of *node B* to be cleared and the flag of *node A* to be set in the local membership of *node A* until a final decision is made by receiving a correct second successor of *node A*.

In the implementation TASM software version 2.04 a negative acknowledgment by the first successor *node B* causes the membership flags of *node A* **and** *node B* set in the local membership of *node A* during the sending slot of *node B*. In the post-receive phase of the slot after *node B*'s sending slot, the membership will be as specified in SRD V1.1.2.

For the acknowledgement check of the received membership vectors (second successor check) the TASM software version 2.04 uses the membership as specified in SRD V1.1.2.

**Conclusion, Work-around:**

The behavior has **no** impact on the protocol functionality, because the controller operates internally with the correct membership vector as specified in SRD V1.1.2.

Following constraints exist for the host application:

The host should not evaluate the local membership vector during the acknowledgement phase. This is a common advice, because also in an implementation compliant to SRD V1.1.2 the membership vector may change during the acknowledgement phase dependent on the membership view of the second successor node. In a worst case scenario the membership decision is final in the pre-send phase of a node's next sending slot (blackout or clique detected).

Instead of using the local membership vector, the host can evaluate the frame states of the received frames to detect if the sender was correct or not.

During the acknowledgment phase the first successor *node B* will be received "tentative" by *node A* if it negative acknowledges *node A*.

**Reference:**

This issue is tracked in the TTTech-internal issue tracking system as *issue19746*.