Proposed Specification of PBB-TE 1:1 Protection State Machine

26.10.3.3 Protection switching variables

The protection requests have a priority relationship as shown in the following table:

Table 26-9—Protection Request Hierarchy

Request	Priority
Lock Out (LO)	highest
Forced Switch (FS)	
Signal Fail Protection (SF-P)	
Signal Fail Working (SF-W)	
Manual Switch (MS)	
Wait to Restore (WTR)	
Do Not Revert (DNR)	
No Request (NR)	lowest

A request applies to one member of the protection group (TE service instance). For example, SF-W indicates that protection group working entity has a signal fail condition and a switch to the protection entity is requested. NR indicates that there is no member specific request for the protection group and no protection switch is active, that is, all protection group members are carrying their normal traffic.

At each end of the protection group the following variables are present:

a) one Local Request – whose value is one of LO, FS, MS, NR
b) one Remote Request/State – whose value is one of LO, FS, MS, SF-W, SF-P, WTR, DNR, NR
c) two local SF variables (SF-W and SF-P) – whose value is set or cleared depending on TE service instance connectivity monitoring

Within the context of the priorities shown in the table above, a local request takes priority over an identical remote request.

Based on the variables and priorities described above, one input request (Rin) is asserted to the state machine for the protection group which is the highest priority request that is currently set. One output request variable is set by the state machine (Rout) and this variable is communicated to the far end protection group state machine, appearing there as Remote Request/State. Whenever a state transition occurs Rout is set to Rin unless Rin is a Remote Request in which case Rout is set to NR.

If HoldOffTime is provisioned, SF-W and SF-P are not asserted until after the Hold-Off timer expires.

26.10.3.4 Protection switching procedures

The following procedures are defined for the load sharing protection state machine:
a) mapDataToWorking() (26.10.3.4.1);
b) mapDataToProtection() (26.10.3.4.2).

26.10.3.4.1 mapDataToWorking()

Maps the customer service(s) that are to be transported by a TE protection group to the working TE service instance by:

a) Setting the VID value of the corresponding I-SID entry(ies) in the backbone service instance table to the ESP-VID of the working TE service instance.

26.10.3.4.2 mapDataToProtection()

Maps the customer service(s) that are to be transported by a TE protection group to the protection TE service instance by:

a) Setting the VID value of the corresponding I-SID entry(ies) in the backbone service instance table to the ESP-VID of the protection TE service instance.

26.10.3.5 Protection group state machine

There is one state machine for each protection group endpoint. The state machine uses the variables that are presented in clause 26.10.3.3 and procedures described in clause 26.10.3.4. The state machines for revertive and non-revertive mode are shown separately for clarity.

In these state machine diagrams the following conventions are used:

- The predicate Rin == XX where XX is the highest priority input request is shown simply as XX.
- A Remote Request is shown as R-XX (e.g., R-FS) and a Local Request is shown as L-XX (e.g., L-MS).
- If a request predicate is shown as XX it is the logical "or" of the local and remote requests, for example, SF-W == L-SF-W || R-SF-W.

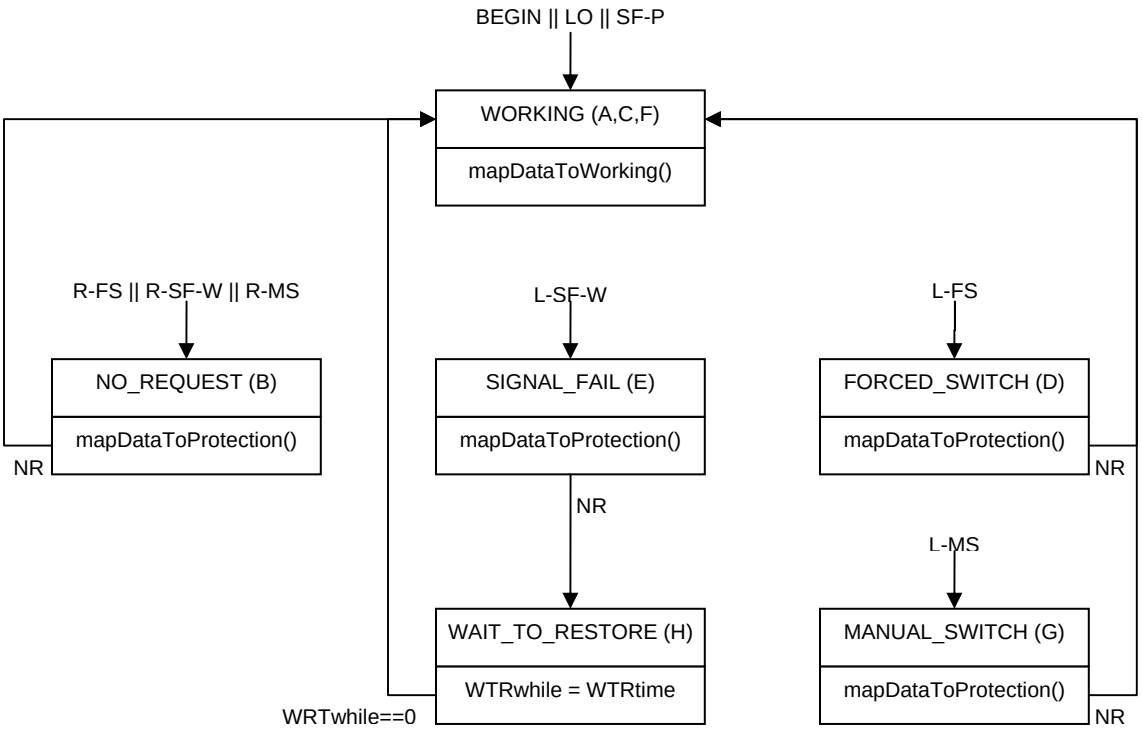

Figure 26-xx — 1:1 protection state machine (revertive)

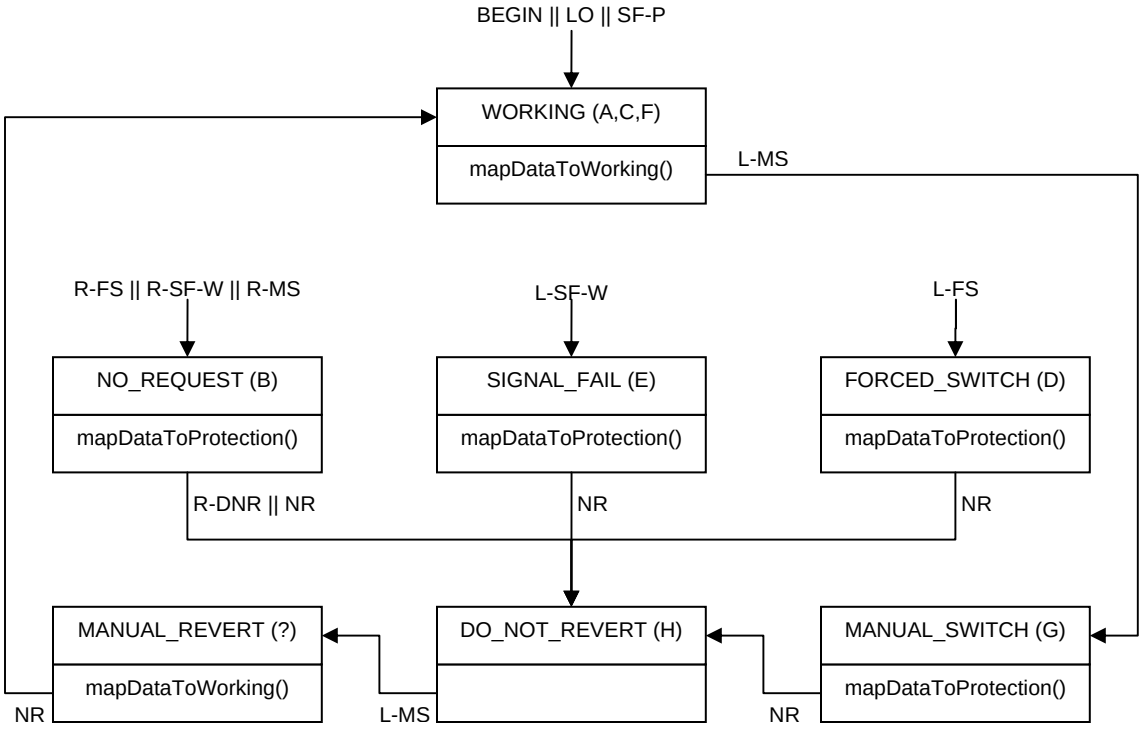

Figure 26-xx — 1:1 protection state machine (non-revertive)