Rules for state diagram variables (D3.1) v100

Info (not part of baseline)

Our state diagrams are inordinately complex, with a very large number of variables (current count 163 for the PSE). Given that our state diagrams mutated out of the Clause 33 state diagrams, we have low consistency in our variable descriptions. Specifically, it is unclear what the rules are pertaining to each variable:

- may it be set externally ?
- only in IDLE, or at any time ?
- is it a state diagram internal variable ?
- is it a variable that must be set according to certain rules (eg. mps_valid) ?

The current descriptions don't help. Some examples:

Variable	Description	Implicit rules
alt_done_pri	A variable used to coordinate...	reserved for the state diagram
alt_pri	A variable used to select...	this is a config variable
alt_pwrd_pri	A variable that controls...	also reserved for the state diagram
autoclass_enable	A control variable indicating...	configuration
class_4PID_mult_events_pri	A variable indicating...	configuration
det_once_sec	This variable indicates...	reserved for state diagram
MirroredPDAutoclassRequest	A control variable output...	reserved for state diagram
mps_valid	This variable indicates the presence or absence of a valid MPS...	mandatory set per requirements

If we don't specify the 'usage rules' of variables, the state diagram can be made to do basically anything.

145.2.5.4 Variables

Info (not part of baseline)

This baseline now assigns a variable type to each variable in Clause 145. This in many cases requires a text change of the variable description. Aim is to get everthing in the following form:

example_variable
A variable used to show an example.
Values:
FALSE: The example is false.
TRUE: The example is true.

In order not to have to duplicate the entire variable list, the baseline will list in tabular form the variable name and the designated variable type. For example:

Variable	Type	Additional instructions
alt_done_pri		Only make variable description consistent.
alt_pri		Only make variable description consistent.

Which would result in the following changes (alt_done_pri results in no changes):

alt_done_pri
A variable used to coordinate the main single-signature state diagram with the semi-independent dual-signature state diagram for the Primary Alternative.
Values:
FALSE: The semi-independent state diagram is not ready to return to IDLE within the single-signature state diagram.
TRUE: The semi-independent state diagram is ready to return to IDLE within the single-signature state diagram.

alt_pri
A variable used to select which Alternative assumes the role of Primary Alternative in the state diagram. This variable may be set at any time by the PSE.
Values:
a: Alternative A assumes the role of Primary Alternative. When operating over 4 pairs, Alternative B assumes the role of Secondary Alternative.
b: Alternative B assumes the role of Primary Alternative. When operating over 4 pairs, Alternative A assumes the role of Secondary Alternative.

Update the descriptions of the variables in 145.2.5.4 per the format in the information box as follows:

Variable	Type	Additional instructions
CC_DET_SEQ		Only make variable description consistent.
alt_done_pri		Only make variable description consistent.
alt_done_sec		Only make variable description consistent.
alt_pri		Only make variable description consistent.
alt_pwrd_pri		Only make variable description consistent.
alt_pwrd_sec		Only make variable description consistent.
autoclass_enable		Only make variable description consistent.
class_4PID_mult_events_pri		Only make variable description consistent.
class_4PID_mult_events_sec		Only make variable description consistent.
det_once_sec		Only make variable description consistent.
det_start_pri		Only make variable description consistent.
det_start_sec		Only make variable description consistent.
det_temp		Only make variable description consistent.
dll_4PID		This variable is assigned through Table 145–40.
error_condition		This variable may be set by the PSE/PD at any time.
error_condition_pri		This variable may be set by the PSE/PD at any time.
error_condition_sec		This variable may be set by the PSE/PD at any time.
iclass_lim_det		This variable may be set by the PSE/PD at any time.
iclass_lim_det_pri		This variable may be set by the PSE/PD at any time.

Variable	Type	Additional instructions
iclass_lim_det_sec		This variable may be set by the PSE/PD at any time.
MirroredPDAutoclassRequest		This variable is assigned through Table 145-40.
mps_valid		This variable may be set by the PSE/PD at any time.
mps_valid_pri		This variable may be set by the PSE/PD at any time.
mps_valid_sec		This variable may be set by the PSE/PD at any time.
option_2ev		Only make variable description consistent.
option_class_probe		Only make variable description consistent.
option_detect_ted		Only make variable description consistent.
option_detect_ted_pri		Only make variable description consistent.
option_detect_ted_sec		Only make variable description consistent.
option_probe_alt_sec		Only make variable description consistent.
option_vport_lim		Only make variable description consistent.
option_vport_lim_pri		Only make variable description consistent.
option_vport_lim_sec		Only make variable description consistent.
ovld_det_pri		This variable may be set by the PSE/PD at any time.
ovld_det_sec		This variable may be set by the PSE/PD at any time.
pd_4pair_cand		Only make variable description consistent.
pd_class_4PID_pri		Only make variable description consistent.
pd_class_4PID_sec		Only make variable description consistent.
pd_req_pwr		Only make variable description consistent.
power_available		This variable may be set by the PSE/PD at any time.
power_available_pri		This variable may be set by the PSE/PD at any time.
power_available_sec		This variable may be set by the PSE/PD at any time.
pse_allocated_pwr		Only make variable description consistent.
pse_alternative		Only make variable description consistent.
pse_avail_pwr		Only make variable description consistent.
pse_avail_pwr_pri		Only make variable description consistent.
pse_avail_pwr_sec		Only make variable description consistent.
pse_dll_capable		Only make variable description consistent.
pse_dll_enable		Only make variable description consistent.
pse_enable		This variable may be set by the PSE/PD at any time.
pse_power_update		This variable may be set by the PSE/PD at any time.
pse_power_update_pri		This variable may be set by the PSE/PD at any time.
pse_power_update_sec		This variable may be set by the PSE/PD at any time.
pse_ready		This variable may be set by the PSE/PD at any time.
pse_reset		This variable may be set by the PSE/PD at any time.
pse_reset_pri		This variable may be set by the PSE/PD at any time.
pse_reset_sec		This variable may be set by the PSE/PD at any time.
pse_ss_mode		This variable may be set by the PSE/PD at any time.
pse_ss_mode_update		This variable may be set by the PSE/PD at any time.
pwr_app_pri		This variable may be set by the PSE/PD at any time.
pwr_app_sec		This variable may be set by the PSE/PD at any time.
semi_pwr_en		Only make variable description consistent.
short_det_pri		This variable may be set by the PSE/PD at any time.
short_det_sec		This variable may be set by the PSE/PD at any time.
sism		Only make variable description consistent.
temp_var		Only make variable description consistent.
temp_var_pri		Only make variable description consistent.
temp_var_sec		Only make variable description consistent.

145.2.5.6 Functions

Info (not part of baseline)

Variables returned by a function (and by functions alone) are F-type. The description of the function makes it clear how this variable is set.

Update the descriptions of the variables in 145.2.5.6 per the format in the information box as follows:

Function	Variable	Type	Additional instructions
do_autoclassification	pd_autoclass		Only make variable description consistent.
do_class_probe	pd_req_pwr		Only make variable description consistent.
do_class_probe_pri	pd_req_pwr_pri		Only make variable description consistent.
	pd_cls_4PID_pri		Only make variable description consistent.
do_class_probe_sec	pd_req_pwr_sec		Only make variable description consistent.
	pd_cls_4PID_sec		Only make variable description consistent.
do_classification	pd_class_sig		Only make variable description consistent.
do_classification_pri	pd_req_pwr_pri		Only make variable description consistent.
	pse_allocated_pwr_pri		Only make variable description consistent.
	pd_class_sig_pri		Only make variable description consistent.
do_classification_sec	pd_req_pwr_sec		Only make variable description consistent.
	pse_allocated_pwr_sec		Only make variable description consistent.
	pd_class_sig_sec		Only make variable description consistent.
do_cxn_chk	sig_type		Only make variable description consistent.
do_detect_pri	sig_pri		Only make variable description consistent.
do_detect_sec	sig_sec		Only make variable description consistent.
do_update_pse_allocated_pwr	pse_allocated_pwr		Only make variable description consistent.
do_update_pse_allocated_pwr_pri	pse_allocated_pwr_pri		Only make variable description consistent.
do_update_pse_allocated_pwr_sec	pse_allocated_pwr_sec		Only make variable description consistent.

145.3.3.3 Single-signature PD constants

Move pd_req_class to 145.3.3.4.

145.3.3.4 Single-signature variables

Update the descriptions of the variables in 145.3.3.2 per the format in the information box as follows:

Variable	Type	Additional instructions
pd_req_class		Only make variable description consistent.
mdi_power_required		This variable may be set by the PSE/PD at any time.

Variable	Type	Additional instructions
nopower		Only make variable description consistent.
pd_acs_full_power		Only make variable description consistent.
pd_acs_req		Only make variable description consistent.
pd_autoclass_enable		Only make variable description consistent.
pd_dll_capable		Only make variable description consistent.
pd_dll_enable		Only make variable description consistent.
pd_max_power		Only make variable description consistent.
pd_reset		This variable may be set by the PSE/PD at any time.
PDAutoclassRequest		Only make variable description consistent.
present_class_sig_0		Only make variable description consistent.
present_class_sig_A		Only make variable description consistent.
present_class_sig_B		Only make variable description consistent.
present_det_sig		Only make variable description consistent.
present_mark_sig		Only make variable description consistent.
present_mps		Only make variable description consistent.
pse_assigned_class		Only make variable description consistent.
pse_power_level		Only make variable description consistent.
V_{Mark_th}		Only make variable description consistent.
V_{PD}		Only make variable description consistent.
V_{Off_PD}		Only make variable description consistent.
V_{On_PD}		Only make variable description consistent.
V_{Reset_th}		Only make variable description consistent.

145.3.3.6 Single-signature PD functions

Update the descriptions of the variables in 145.3.3.6 per the format in the information box as follows:

Function	Variable	Type	Additional instructions
do_class_timing	long_class_event		Only make variable description consistent.
do_update_pse_assigned_class	pse_assigned_class		Only make variable description consistent.

145.3.3.9 Dual-signature PD variables

Update the descriptions of the variables in 145.3.3.9 in the same way as 145.3.3.4.

145.3.3.11 Dual-signature PD functions

Update the descriptions of the variables in 145.3.3.11 in the same way as 145.3.3.6.

145.5.3.3.1 Variables

Update the descriptions of the variables in 145.5.3.3.1 per the format in the information box as follows:

Variable	Type	Additional instructions
MirroredPDAutoclassRequest		This variable is assigned through Table 145-40.
MirroredPDRequestedPowerValue		This variable is assigned through Table 145-40.
MirroredPSEAllocatedPowerValueEcho		This variable is assigned through Table 145-40.
PDRequestedPowerValueEcho		Only make variable description consistent.
PSEAllocatedPowerValue		Only make variable description consistent.
PSEAutoclassCompleted		Only make variable description consistent.
PSEAutoclassSupport		Only make variable description consistent.
pse_initial_value		This variable may be set by the PSE/PD at any time.
local_system_change		This variable may be set by the PSE/PD at any time.
pse_alternative		Only make variable description consistent.
pse_dll_enable		Only make variable description consistent.

Variable	Type	Additional instructions
pse_dll_ready		This variable may be set by the PSE/PD at any time.
pse_power_update		Only make variable description consistent.
sig_type		Only make variable description consistent.

145.5.3.3.2 Functions

Update the descriptions of the variables in 145.5.3.3.2 per the format in the information box as follows:

Function	Variable	Type	Additional instructions
pse_power_review	pse_new_value		Only make variable description consistent.

145.5.3.4.1 Constants

Move pd_dllmax_value to 145.5.3.4.2.

145.5.3.4.2 Variables

Update the descriptions of the variables in 145.5.3.4.2 per the format in the information box as follows:

Variable	Type	Additional instructions
pd_dllmax_value		This variable may be set by the PSE/PD at any time.
MirroredPDRequestedPowerValueEcho		This variable is assigned through Table 145–40.

Update the variables in 145.5.3.6 and 145.5.3.7 in the same manner as 145.5.3.3 and 145.5.3.4 respectively.