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1 SWS_IFXLibrary

1.1 Specification Item SWS_Ifx_00250

Trace References:

none

Content:

The interpolation result obtained for rising and falling curves/maps shall be symmetrical.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77302: [Ifx] Possibility of achieving symmetricity requirement

Problem description:

From the requirement SWS_Ifx_00250, it is observed that symmetricity is not possible to be achieved for all cases.

For example:

Consider a rising curve as below

$X_array = (23, 623)$

$Y_array = (1, 60000)$

$Xin = 24$

then if round towards zero is applied during unscaling as per SWS_Ifx_00016, the output obtained will be 100

Consider a falling curve as below

$X_array = (-623, -23)$

$Y_array = (60000, 1)$

$Xin = -24$

then if round towards zero is applied during unscaling as per SWS_Ifx_00016, the output obtained will be 102

For the above rising and falling curve, if rounded off is applied during unscaling as per SWS_Ifx_00016, then output will be 101 for rising curve and it will be 102 for falling curve.

Therefore Symmetricity can not be achieved.

Agreed solution:

The requirement on symmetricity SWS_ifx_00250 shall be removed.

BW-C-Level:

Application	Specification	Bus
1	1	1

1.2 Specification Item SWS_ifx_00251

Trace References:

none

Content:

The intermediate results during unscaling in interpolation calculation shall be Rounded towards zero.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77301: [Ifx] Rounding method not specified during unscaling in interpolation result computation

Problem description:

In SWS_ifx_00016, during unscaling of the intermediate result, there is no rounding mechanism specified. This will lead to different rounding mechanisms being applied by different implementers.

Agreed solution:

A new requirement in section 7.6 should be brought as like below.

7.6 library implementation

[SWS_ifx_00xxx] The intermediate results during unscaling in interpolation calculation shall be Rounded towards zero.

–Last change on issue 77301 comment 2–

BW-C-Level:

Application	Specification	Bus
4	4	1