TPT 20 Severe Issues

Introduction

The following document contains a list of known severe issues of TPT. By severe issues we mean issues/bugs
in particular versions of TPT that:

1. might cause malfunctions in the behavior of TPT
2. are hard or even impossible to find by the TPT user herself/himself
3. cause the risk that bugs/defects in a SUT (system under test) are not detected by TPT in cases where
   TPT would have been able to reveal these bugs/defects in the SUT without the aforementioned
   malfunction in the behavior of TPT.

Usually these severe issues address the situations where the problem might appear and have well-defined workarounds.

ISSUE # P90208485-43040

TITLE: Enum import with duplicate constant can lead to an incorrect value for some of the constants to be imported to TPT

ISSUE DETECTION:
06/18/2024

AFFECTED VERSIONS OF TPT:
TPT 16 to TPT 20

PRECONDITIONS:
Enumeration data type with multiple constants using the same value present in C/C++ example or other data-source for interface import capable of importing enumeration data types to TPT.

DETAILS:
On interface import of an enumeration data type with more than one constant for the same value, the duplicate constants may get imported with an incorrect value.

EFFECT OF THE ISSUE:
The declared enumeration data type in TPT has incorrect values for the affected constants.

WORKAROUND:
Ensure that this use-case does not occur within the data source of the interface import before import the interface to TPT or manually review the constants for imported enumeration data types.

RESOLVED IN:
TPT 2024.12

ISSUE P90208485-42821
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TITLE: False-positive statement coverage with "TPT Coverage (TASMO)" in case of switch case expression with fall through behavior in C/C++

ISSUE DETECTION:
05/16/2024

AFFECTED VERSIONS OF TPT:
TPT 20

PRECONDITIONS:
Coverage measurement is enabled for a C/C++ or AUTOSAR platform configuration and "TPT Coverage (TASMO)" is selected as Coverage tool. The user-code contains a switch statement with fall through behavior for at least one case.

DETAILS:
The instrumentation for "TPT Coverage (TASMO)" does not properly consider the possibility of fall through semantic for a switch clause that does not have a control flow statement at the end and falls through to the next one. Statement coverage within the following switch clause may be counted for the previous statements as well.

EFFECT OF THE ISSUE:
For statements within a switch case expression that uses the fall through behavior TPT may wrongly assume statement coverage or display incorrect coverage numbers.

WORKAROUND:
When using "TPT Coverage (TASMO)" as coverage tool with the C/C++ or AUTOSAR platform ensure that the instrumented code does not use fall through behavior in switch case expressions or verify the statement coverage for these statements manually.

RESOLVED IN:
TPT 20u1, TPT 2024.12