So What? - A Guide to Developing TIM Impact Statements

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Don’t feel bad. If impact statements were easy, you wouldn’t be reading this. You’ve taken the TIM Summit training, haven’t you?

The description for Test-A lists requirements 1, 2, 3 as tested. They are actually verified in Test-B. So what?

Lesson: Reconciling the error in where the requirements are verified will delay verification of test results. So what?

Delays in verifying test results could cause test program to miss project milestone. Ouch!

The test script description references an obsolete IRCD. The software is built to the current version. So what?

Test case A does not completely verify Requirement 1. So what?

Capability 1-A may not execute as intended. So what?

Ground operators will be inconvenienced, and have to retransmit command. So what?

Negative impact on mission ops scheduling, delays in obtaining mission science data. Oh Shoot!

The variable is uninitialized and therefore its contents unknown when evaluated. So what?

The default case would be reached, and throw an unhandled exception. So what?

If unhandled, the exception would propagate to the top, and a software reset would occur. So what?

If a software reset occurs during orbit insertion, it will result in loss of the spacecraft and of the mission. Oh that!

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There is the parent requirement! An upstream impact

Grandparent requirement provides full weight of this zone’s impact!

Here’s my requirement! An easy impact.

You will get this directly from the requirement. No guesswork required!

IV&V is great at finding incorrect/ inconsistent references. Why should the project care?

Well it still works, project still may not care much.

Ding-Ding! No more calls, we have a winner!

Waitaminute! How did we get here?

Enter the visualization of requirements and test analysis networks

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Not to mention the R-word… rework!

An easy to navigate requirements network lends itself to characterizing upstream impacts!

Here’s my requirement! An easy impact.

Does it still work… we think?

The test case is incomplete. A significant capability is not being verified in this test. So what?

If an error is present, the error might not be detected until integration and or system test, causing delays and re-working in costly bug fix cycle. DOH!

Do you see how the default will be invoked in the operational system, but not in the lab during testing? This causes loss of testing impact. What else?

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