Regression- & Performance Testing of TM1 & Planning Analytics Financial & Operational Performance Management Solutions:

Recommendations & Guidelines

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Notices & Disclaimers

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1.   Regression- & Performance-Testing: Introduction

The application of a Regression & Performance testing methodology is important whenever software solution configuration or code changes introduce uncertainty pertaining to functionality or performance.

In cases where Planning Analytics / TM1 will mainly be used for OLAP Analysis of data originating from a Data-Warehouse or other source systems, new cubes can be deployed via a metadata-based modelling & maintenance framework and in such (because such a framework does not result in code changes) may not require extensive Regression & performance Testing.[1] Performance & Regression Testing for such 'Reporting & Analysis' environments therefore can be limited to major block points or enhancements only.

Yet changes particularly to 'contribution-style' operational TM1 models (FCST/Plan/Budget/What-If, etc.) should be following a thorough Regression- & Performance Testing process.

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[1] It is assumed that the environment will have sufficient Memory reserves to be flexible to changing analysis requirements & demands.

2. Characteristics & Benefits of a Regression- & Performance Testing Framework

Please refer to the following presentation for a recommended approach & guidance on how to implement a dynamic, multi-functional regression- and performance-testing Framework:
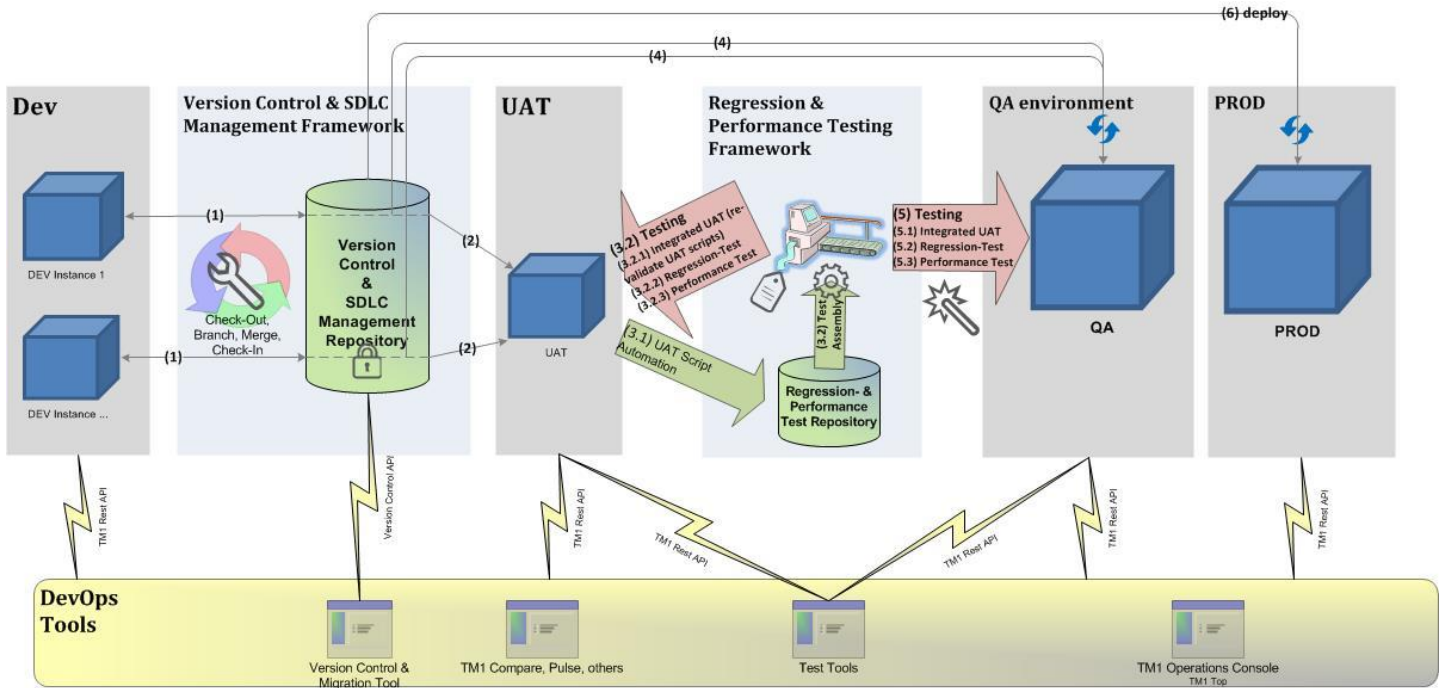

Optimizing DevOps in FOPM:
Characteristics & Benefits of a
Regression & Performance
Testing Framework

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# 3.	SDLC Reference Architecture and Embedded Regression- & Performance-Testing

4.   Regression- & Performance-Testing: Tooling

For testing web-server or web-application server load testing, tools like Apache JMeter (in combination with the TM1 Plugin for Apache JMeter) are a recommended testing tool.[2]

For purely functional TM1 regression- and performance testing however, it is a better option to leverage the TM1 RestAPI[3] directly (via a Java interface for example): While a TM1 RestAPI-based testing tool is not be able to test web-server load (such as load on a TM1 Web Application Server or PAW), the RestAPI tool would allow mimicking a client via issuing corresponding Rest-API requests to TM1.

The advantage of using a Rest API-based tools lie in its
• Low maintenance cost (particularly the OData-based RestAPI calls can easily be ported/changed/adjusted where needed)
• High transparency: the API calls themselves expose what is requested
• High portability: Due to its transparency, the testing framework is not limited to TM1 and could be applied to other platforms too (would require translation)
• UI-independency (focus on functional regression & performance testing)

Examples for Rest API testing tools: google 'rest api testing tools'

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[2] see https://www.ibm.com/developerworks/library/ba-pp-infrastructure-cognos_specific-page675/ & http://ykud.com/blog/cognos/tm1-cognos/using-apache-jmeter-to-load-test-tm1-contributor-applications for more information

[3] IBM Planning Analytics provides an OData-based RestAPI as a means for open (non-proprietary), built-in (meta)data discovery & management. The **TM1 Rest API** can be leveraged to retrieve as well as manage the TM Data Dictionary, TM1 content and metadata and represent it in a non-proprietary format. The TM1 Rest API can also be used to execute/perform virtually any TM1 functionality. It is the interface used by all 'newer' TM1 UIs (PAX, PAW) when communicating/interacting with TM1

5.   Performance Testing Framework Test-Script (Template)

**Performance Testing Methodology & Framework
for IBM TM1 & Planning Analytics Solutions:**

**Sample Template for
Script Development & Management**

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Business Analytics software

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