Testing Automation
Why and How to Implement

Session 0607 – May 2013

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Projects Testing Manager
who are you, anyway?
Objective:
Explain why and how to do test automation

Steps – Learning’s from this Session
Why automation?
Tools Roadmap & Results
Automation Roadmap & Results
Do’s and Don’ts
why automation

For ExxonMobil:
Large project moving to global structure
Testing takes time
Right size testing mandatory
Limited successes to date with automated testing

Improved development integrity, emphasis on mission critical
Improved testing turnaround during monthly release
Better use of critical resources
Reduced defects during monthly release cycle
YOU ELIMINATED THE BUDGET FOR AUTOMATED TEST SOFTWARE. HOW ARE WE GOING TO TEST OUR NEW CODE?

GO WRITE SOME AUTOMATED TEST SOFTWARE, YOU BIG BABY. I ALREADY PAY YOU, SO IT'S FREE.

TODAY I LEARNED YOU CAN END ANY CONVERSATION BY CALLING THE OTHER PERSON A BIG BABY.

WAA-WAA! DO YOU WANT YOUR BOTTLE?
The first question is “What is “good” Test Automation?”

Good Test Automation should provide the following benefits when used appropriately with the right tool set:

Enables Unattended, Scheduled Test
Frees up Resources to Focus on Other Project Tasks
Reduces Testing Time and Cost
 Allows for Consistent Testing Procedures
Improves Product Quality
Proof of Concept

Will it even work at ExxonMobil?
We’re different

Who needs to be engaged?
Cheerleaders
Business support
The naysayers
Projects and support
tools roadmap – run

• We need a plan

Planning

POC

Pilot

Report

Objective / Purpose

Install stand alone

Integrate into EM infrastructure

Results and benefits case
Agreed to Schedule - 4 months
Determined critical success factors for “done”
Identified low / medium complexity existing test cases to automate
Documented roles and responsibilities
Applied and installed tools
Determined how many licenses would be needed
Created processes for create, execute, fix, maintain
Recommended organizational design
The following Business Process were flagged as acceptable candidates for Automation

- FI Intercompany
- FI Treasury
- OTC Accounts Receivable
- OTC Invoicing
- OTC Order Entry
- P2P Procurement
- P2P Warehousing
- P2P Accounts Payable
- PM Plant Maintenance
- SCM Product Supply
- SCM Inventory Management
- SCM Lubes Manufacturing
ANN, I DID NOT THINK THIS WAS POSSIBLE
SAP-PTP scenario was considered with create, release, approve, assign, and process Purchase Requisition, Goods Receipt-Purchase Order, Release-Purchase Order, and MIRO.

<table>
<thead>
<tr>
<th>Tools Approach</th>
<th>Development Time (Hrs)/TC</th>
<th>Execution Time (Hrs)/TC</th>
<th>Maintenance Time (Hrs)/TC</th>
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</thead>
<tbody>
<tr>
<td>Manual</td>
<td>12</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Automation</td>
<td>6</td>
<td>0.10</td>
<td>1</td>
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</tbody>
</table>
Solution Manager and Testing Tools Communication

Retrieve information about the T-codes

Solution Manager Server sends BB, Docs, Links, Testing Objects to QC through a defined Logical Port

QC sends results of execution back to Solution Manager according to the tests linked to the Blueprints. This is done through a Web Server User

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tools results – we did it

- Deliverables
  - Automated high impact test cases
  - Confirmed that automated testing is less expensive & faster
  - Captured expected and actual results, and data requirements
  - Incorporated automation in the release life cycle
  - Documented tools set up and support practices
  - Documented testing processes
  - Transitioned to base support
  - Do more
<table>
<thead>
<tr>
<th>Tasks</th>
<th>% Complete</th>
<th>Plan Start</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluate HP QC/QTP</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Evaluate add'l QC environment functionality</td>
<td>81%</td>
<td></td>
</tr>
<tr>
<td>Acquire and install testing tool software and hardware in a Production environment</td>
<td>96%</td>
<td></td>
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<tr>
<td>Identify &amp; schedule critical regression test cycles for clean-up</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Develop Resourcing Plan for test cycle clean-up</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Clean-up test variants &amp; upload to QC</td>
<td>47%</td>
<td></td>
</tr>
<tr>
<td>Technical issues for automation</td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td>Create automated test scripts</td>
<td>33%</td>
<td></td>
</tr>
<tr>
<td>Integrate &amp; execute automated testing into MoC process</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Maintenance and Optimization of automation process</td>
<td>0%</td>
<td>13-Jun-10</td>
</tr>
<tr>
<td>Identify automated test scripts</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Evaluate other business lines for automated solution</td>
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</table>
Requirement Analysis
Strategy Formulation
Test Planning

Test Case Creation
Scripting
Test Execution

Defect identification
Defect resolution
Script correction

Re-execution
Release
Post Deployment Evaluation

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results – lessons learned

- Glad we did.....
  - Experienced people
  - Stakeholder alignment
  - Demo’s
  - Cross process and organizations
  - Right size
  - Find out current perceptions and future goals
  - What is “DONE”

- Wish we had.....
  - Security resources
  - Test cases suitable for testing, or not
  - Better commitment from experts
  - Stay with original scope and firm due dates
What’s next, the wish list

- Expand common use of tools, practices, automation
  - Infrastructure
  - Non-SAP
- Evaluating use of automation for functional testing
- Include additional automation in project scope
- Evaluating use in sandbox, development
What did we review....

- Better understanding on the ROI with automation
- Basic construct of tool installation plan
- Basic construct of automation plan
- Overview of tool connectivity
- Overview of construction process
- Lessons learned
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THANK YOU FOR PARTICIPATING

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