




*Presented to*  
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**Test Automation –  
Building Your Business Case**

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*Thinking  
Through  
Testing*

## Goals of Automation



- ❖ Desire to improve testing productivity, reduce costs, and improve product quality is often expressed as:
  - ❖ Discover defects earlier
  - ❖ Increase test speed, accuracy, repeatability
  - ❖ Increase test availability (rapid and unattended)
  - ❖ Extend test capability and coverage
  - ❖ Increase test accumulation
  - ❖ Increase tester effectiveness
  - ❖ Formalize testing and enable measurement

**Let's Automate!**



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## Common Automation Scenarios



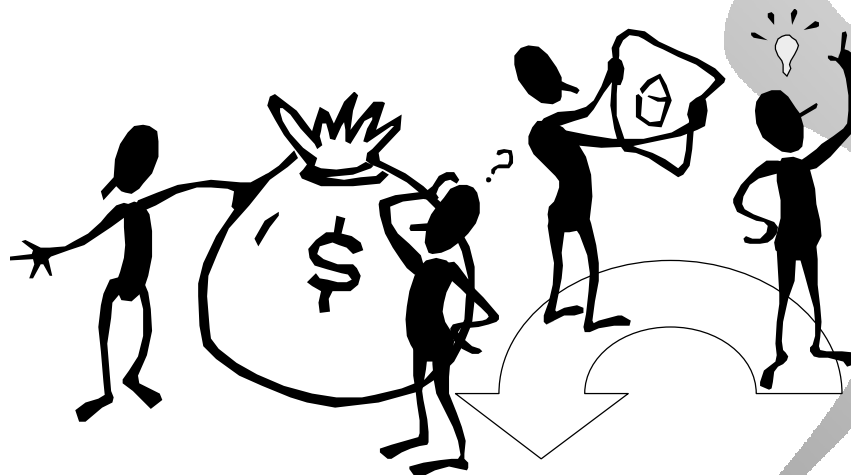
- ❖ Build Verification (Smoke Testing)
  - ❖ Quickly determine the stability of a new build before committing manual test resources to testing it
- ❖ Configuration Testing
  - ❖ Run similar tests on a variety of system configurations
- ❖ Regression Testing
  - ❖ Easily verify that stable (non-changing) functionality remains working between builds/releases
- ❖ Others...?

Mature Functionality  
vs.  
New Development

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## Talking in Dollars and Sense



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## Treat Automation as a Project



- ❖ Why should we do this?
- ❖ Why should we do it this way?
- ❖ What is the return on investment?
- ❖ When is the investment paid back?
- ❖ When do I start to save / profit?
  
- ❖ Need to go through the same cost justification process as you would any other project

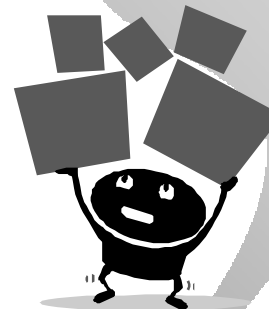
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## What are the Anticipated Costs?



- ❖ Automation software & support
- ❖ Automation environment hardware
- ❖ Training resources
- ❖ Effort to automate and execute the test cases
- ❖ Results analysis / interpretation of results
- ❖ Maintenance of automation environment and scripts
- ❖ Increased/more expensive head count for test automation skills



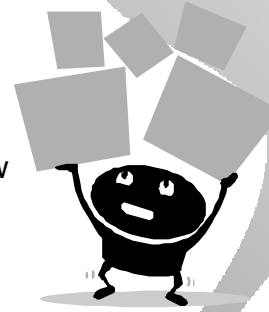
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## What are the Expected Savings?



- ❖ Time saved from manual testing
  - ❖ Speed, parallel execution, configurations
- ❖ Benefits from new testing
  - ❖ More effective use of manual testing
  - ❖ Previously infeasible manual tests now automated
  - ❖ Tests added by non-testers
- ❖ Benefits from more frequent execution of tests
  - ❖ Costs saved by finding issues earlier



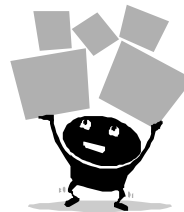
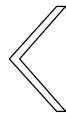
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## What is the ROI?



- ❖  $ROI = \text{Value or Benefit of Investment} / \text{Initial Cost}$



- ❖ Depends on:
  - ❖ Goals / objectives for automating
  - ❖ Value automation provides to overall testing effort
  - ❖ Each type of automation has its own unique return
  - ❖ Both tangible and intangible benefits

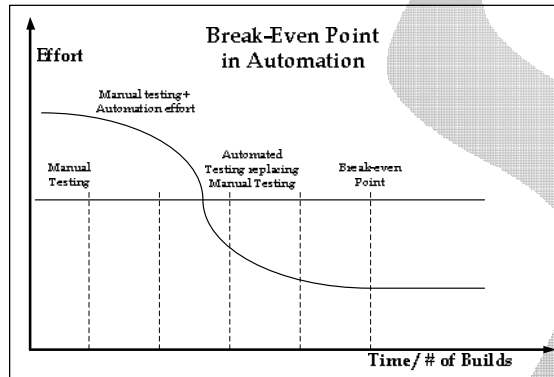
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## When Do I Start to Save?



- ❖ What is the useful lifetime of a test?
  - ❖ Product changes (feature set)
  - ❖ Technology changes
  - ❖ Stability of application (quality)
  - ❖ Robustness of test/framework
- ❖ Automation is not always
  - ❖ Appropriate
  - ❖ Cost effective



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## Simplistic Business Case Calculation



Costs	Manual Testing		Automated Testing	
	Test Pass 1	Test Pass N	Test Pass 1	Test Pass N
Test Pass (effort)				
Tool (purchase)				
Training (effort)				
Implementation (effort)				
...				
Other...				
Totals				
			Breakeven on Test Pass #:	
			Savings in Year 1: \$	
			Savings in Year 2: \$	
			Savings in Year 3: \$	

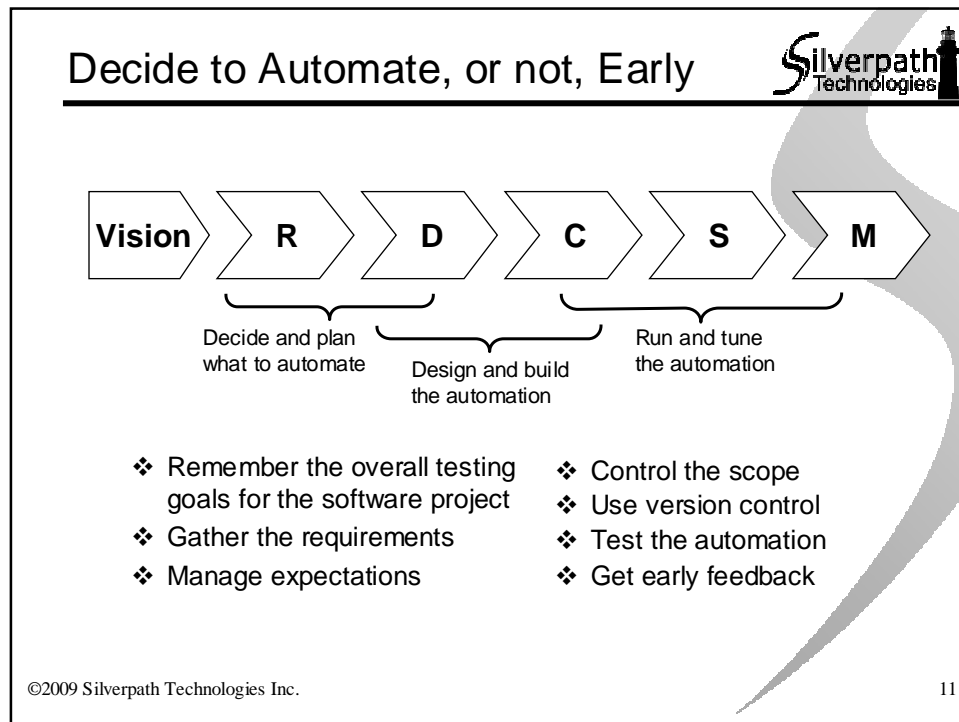
Assumptions:

- 1 Test Pass every 2 months, or 6 Test Passes per year
- License or Service Fee is 20% of original purchase price each year
- The manually executed tests mentioned above are all automated and run in each Test Pass
- Failure estimates assume:
  - a. one third of tests will fail each time they are run
  - b. failed tests are re-run
  - c. etc
- Test Pass N is expected to be a typical snapshot of the cost situation in a year's time
- x% maintenance of automated tests required each test pass or each year
- x% increase in functionality and therefore number of tests over a given year


adapted from "Software Test Automation" by Fewster and Graham, 1999

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## Thinking Through Testing™



- ❖ Silverpath is founded on the principle vision of providing high value to software companies by raising the quality of their software systems and teams while simultaneously driving down the total costs to achieve that quality.
- ❖ Silverpath's approach of *Thinking Through Testing*:
  - ❖ Is risk-driven, ROI-centric
  - ❖ Leverages standardized light-weight practices
  - ❖ Enables early feedback on quality
  - ❖ Conducts in-parallel test activities
  - ❖ Executes the right testing at the right time
  - ❖ Maximizes reusability
- ❖ Working together, we obtain the practical results needed from the optimal balance of quality requirements, scope of effort, and project constraints and thereby achieve the greatest return on investment.
- ❖ Visit <http://www.silverpath.com>

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