

# Performance Testing

How to compile, analyze, and report results

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# what am I here to talk about?

- How to compile test data
- How to calculate performance timings
- How to present your test results to management



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# who am I?

- I'm Karen Johnson; I've been in software testing for 14 years
- I have experience in performance testing multiple applications
- After years of testing, I found myself in executive meetings where I needed to “talk” about performance timings



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## compile test results

- The value of organizing test results is it enables you to sit back and analyze the information
- The skills in compiling test data isn't clerical; it's about knowing which tests can be bundled together and why
- *How you organize your test results isn't as important as getting organized*

# compile test results

Here's my method :

1. Build a test log of every test executed
2. Determine tests to include in analysis
3. Determine tests that must be disqualified/discarded
4. Create result folders to organize tests that will be used
5. Create analysis folders to think/work through the data

# compile test results

Build your own method:

- Find a method that works for you
- Choose a method your team can follow
- Design a method based on the final results you're seeking



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# analyze test results

- The value of analyzing test results is it enables you to understand and predict product behavior before launch
- The skills in analyzing performance timing information isn't gained overnight. There is not one set of golden rules.
- Ask for input from other people in your team. Correlate network and database statistics captured during test executions with your test data.

# analyze test results

Here's my method:

1. Clear your thinking; throw away speculations
2. Look for consistency in performance timings
3. Discover “normal” and “within range” performance timings
4. Look for trends; look for outliers



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# analyze test results

Here's my method (continued):

5. Hold aside tests where performance timings are unusual
6. Experiment with different ways to calculate timings
7. Be aware of outliers when calculating timings
8. Build analysis sheets, crunch the math and be willing to discard some original "conclusions"

# analyze test results

Review my method and adapt as needed:

- Use many well-executed tests to substantiate your results
- Use consistent calculations to derive timings
- Don't just answer the original performance questions if the test data shows other information that should be told

# outliers

## Definition:

A statistical observation that is markedly different in value from the others of the sample.

## Questions to ask:

- Are there timings “out of range” from other tests?
- Are there timings that when included in final calculations affects the results?

# standard deviation

## Definition:

Standard deviation is the most common measure of statistical dispersion, measuring how spread out the values in a data set are.

## Question to ask:

- Does the average timing mean anything?
- Do the test timings show a wide fluctuation?

# present test results

- The value of presenting is that it forces you to build conclusions, to attempt to answer product questions
- The skills in presenting are completely different from the skills need to execute the tests.
- Know your information well enough that you can be thrown off your planned presentation

# present test results

- Know the information; know your audience
- Use basic charts or drawings whenever possible
- Build your presentation for short attention spans
- Know more details than you necessarily present



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# present test results

## Suggestions on presenting:

- Know the key questions your management has and be ready to answer at least those questions
- Spend time preparing to present by understanding the summary of the information you know
- All the technical product knowledge you have isn't valuable unless you can share it

# sample analysis session

- Find the test with an outlier
- Find the high standard deviation
- Find why an average might not mean much
- What else can you find in the test results?



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Thank you !

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