Project Metrics for Testing
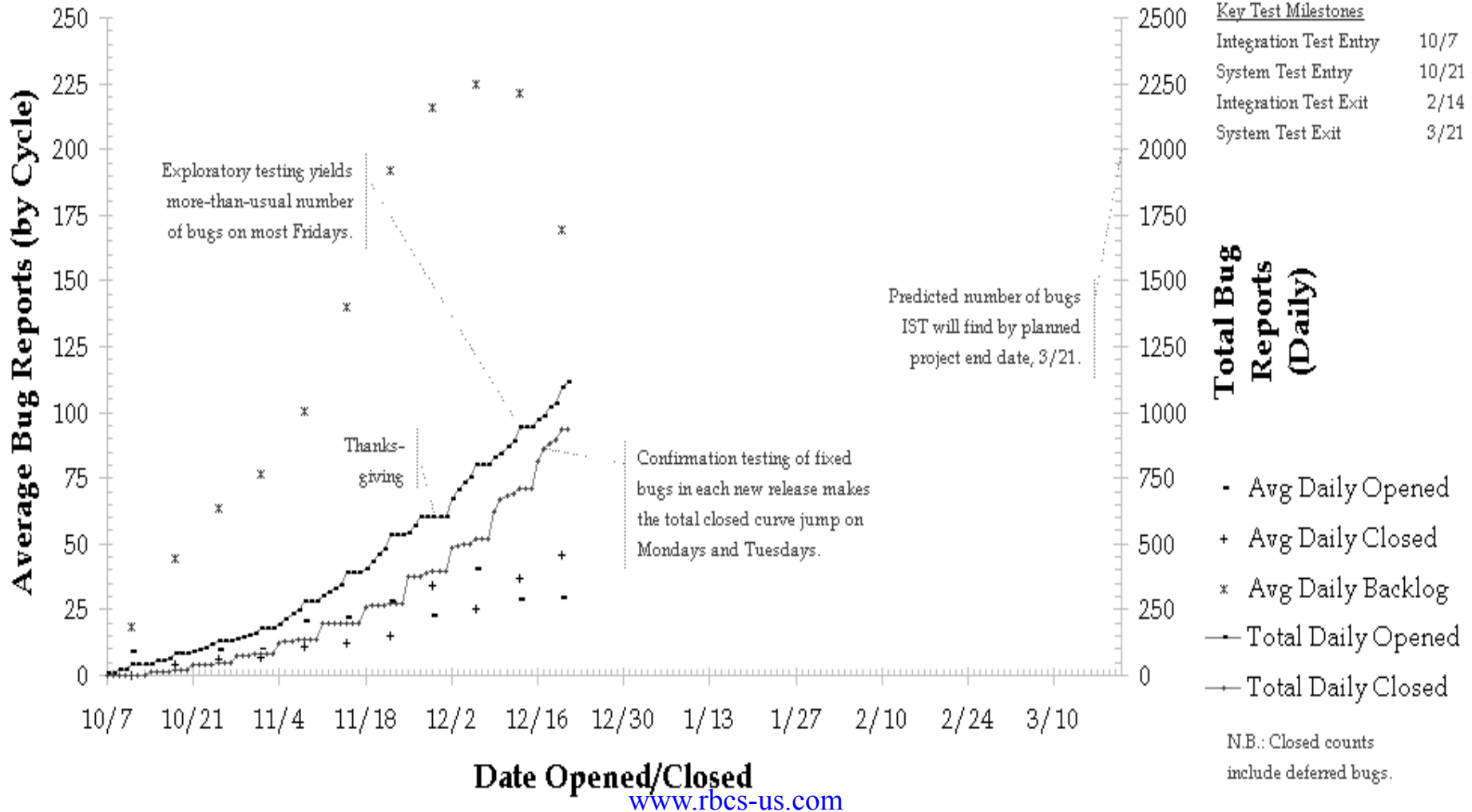
- Uses
  - To measure the progress of the testing effort on a project
  - To provide the insights to guide where project optimizations might be needed/useful
- Part of certain test process assessments (e.g., using CTP framework)
- The most commonly used test metrics
- Usually included in test dashboards (often over-relied upon)

Sumatra Integration and System Test Execution Phases
System Quality Problems Analysis

Key Test Milestones

Integration Test Entry	10/7
System Test Entry	10/21
Integration Test Exit	2/14
System Test Exit	3/21

Exploratory testing yields more-than-usual number of bugs on most Fridays.

Predicted number of bugs IST will find by planned project end date, 3/21.

Thanks-giving

Confirmation testing of fixed bugs in each new release makes the total closed curve jump on Mondays and Tuesdays.

- Avg Daily Opened
+ Avg Daily Closed
* Avg Daily Backlog
— Total Daily Opened
— Total Daily Closed

N.B.: Closed counts include deferred bugs.

Average Bug Reports (by Cycle) — vertical axis left (0–250)
Total Bug Reports (Daily) — vertical axis right (0–2500)

Date Opened/Closed

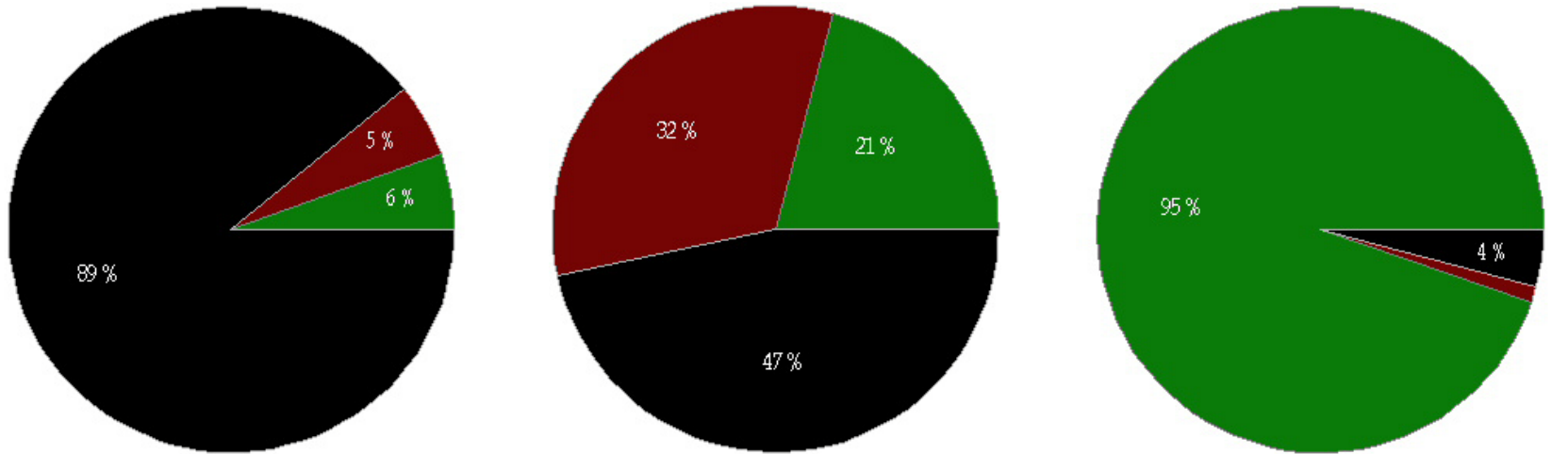# *Product Metrics for Testing*

- Uses
  - To measure the quality and residual quality risk in the product
  - To provide the insights to guide where product improvements should occur
- Good testing should measure the quality of the system
- Not always measured during testing (using project metrics instead)
- Not always part of testing dashboards (but should be)

Example: Reporting Residual Levels of Risk

Test execution period

Region in green represents risks for which all tests were run and passed and no must-fix bugs were found.   Region in red represents risks for which at least one test has failed and at least one must-fix bug is known. Region in black represents other risks, which have no known must-fix bugs but still have tests pending to run.

Conclusions

- Metrics can be useful to measure, understand, and manage process, project, and product attributes
- Testing metrics are essential for a complete understanding of status
- Use a small number of metrics
- Use surrogate metrics where necessary
- Ensure consistent stakeholder understanding of metrics
- Define objectives, then questions, then metrics, then goals
- Use the goals to drive meaningful process improvements

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