Are We There Yet?

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Challenge

How do you know when you have run enough random tests?
Available Solutions

- Too Big
- Too Small
- Grow You Own
- VMM Planner

For Vera and SV/VCS users…
Pros and Cons of Available Solutions

- **Too Big (Mega-Verification Plan, Charts and Graphs)**
  - Pro: Looks impressive
  - Cons: Not maintained, not read, meaningless data

- **Too Small (Notes, whiteboard, verbal)**
  - Pro: Fast, dynamic
  - Cons: Chaos, subjective

- **Grow You Own (UCAPI, scripts)**
  - Pro: Customized to team/manager’s format preference
  - Cons: Work, non-standard

- **VMM Planner…..**
Why VMM Planner?

- An executable Verification Plan
- Automatic back-annotation
- Familiar spreadsheet format
- Forces thinking about feature hierarchy
- Filters to focus on short-term vs long-term
DON'T CHANGE ORDER OF SUBPLANs. INCLUDE PATHS (hidden above) ARE LINKED BASED ON ENTRY LOCATION.
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- **Filtered**

- Feature: Diagnostics
- Feature: cross with CC
- Feature: cross with pipeline
- Feature: cross with mem_type
- Feature: cross with each pattern
- Feature: cross with back-to-back fails
- Feature: Fail Injection BIO (RND CLKS)

Can we run "clean" in PF mode when no fails are present?
Lessons Learned

- **Merging Coverage Results**
  - group flex_merge_drop
  - group merge_across_scopes

- **Auto-bin cross filtering – not available**
  - Use ignores when defining cross
  - Define several cross “flavors”

- **Cumulative vs New coverage**
  - Maintain two merged coverage databases for each subplan
  - Reset one when design is updated

- **Link to URG reports in master plan**
Conclusion

- VMM Planner Spreadsheet Annotator is off to a good start (Beta)
- Immediate value-add for Vera and SVTB users
- Incorporating into our verification flow
- Spend less time wading through coverage reports to answer, “Are we there yet?”, and spend more time finding bugs!