

# Evaluation of Dependability and Resiliency Top Technical Challenges Over Next 10 Years

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## My Top Three: Red

- Need to incorporate formal analysis measures into dependability assessments
- e.g., formal verification can deliver claim of possible perfection and can then ask about probability of perfection
- Massive recent advances in formal testing (Klee and other children of DART), static analysis, and verification based on testing (Dash) mean these are likely to become the dominant means of assessment

## My Top Three: White

- Make the evaluations compositional (i.e., modular)
- I have evaluations of two subsystems; what do I know about the system?
- I have two evaluations of the same system; do I know more?

## My Top Three: Green

- An anecdote: certification and accreditation vs. evaluation
- Measures must be predicative: guides to action and decision
- Another anecdote: cars and you get what you measure

## My Top Three: Four

- So what about adaptive systems?
- There are some good reasons for using these; what can we say about them?