

Model Based Flight Software Development

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Outline

Hypothesis
What To Do
How To Do It
Consequences

This presentation follows a speculative idea:

- To extend model based system development later into operations time,**
- We have written before about extending earlier into pre-RFP time.**

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Outline

Hypothesis

The age of “heroic engineering” is reaching its end.

We should

Use models of major system components and interactions,
And models of expected operational environment and CONOPS.

What To Do

Requirement documents are models, but very bad ones.

Manifesto

How To Do It

Warning

Continual observation and improvement

Inference-execution cycle

Track changes, abstract and optimize

Self-modeling system software, self-aware, self-adaptive, autonomic, ...

Consequences

Software improvement can begin long before hardware is ready.

We get provably correct software

(but it can only be as good as the hardware models allow).