How Verilog-A Standard Compact Models Could Help ADI

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Our proprietary models: e.g.,

− BJT with self-heating (long before VBIC, Mextram)
− Enhanced BSIM3 with stripes, pocket implant, gate leakage

… need to run in other special-purpose simulators

− RF simulators
− Fast SPICE simulators
Standard Models

- Verilog-A implementation means we do the compiler once, get all models easily
  - Which BJT model? VBIC, Mextram, HiCUM, …
Enhancing Standard Models

- Verilog-A makes it easy to add features to standard models
  - Better modeling of analog-specific device characteristics
  - Easy addition of new features of advanced processes
Creating New Models

• Verilog-A handles derivatives, etc.
  – Means burden of implementation of new model in our simulator is dramatically reduced

• Model will run everywhere (in other simulators)

• BUT: compiler must be reliable!