OPTIMIZING SECURITY FOR VIRTUAL MACHINE APPLICATIONS

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Introduction:

- Primary Goal: secure virtual execution environment tailored for a specific application
- Application-specific trusted computing base (TCB) size minimization in a virtualized environment is possible
- VM size and composition matters: security (TCB, attack surface) and performance (storage, memory, CPU)

Approach:

- From declarative descriptions to systems deployed as VMs.

Steps 2-4 focus on the execution environment.

Challenges:

- Language Design, Profiling Techniques
- GUS Representation, Semantic Reasoning

ADVANTAGES


WORK IN PROGRESS

Model refinement and description techniques.