THE XEN-BLANKET
VIRTUALIZE ONCE, RUN EVERYWHERE
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multi-cloud deployments
Integrate public and private clouds
Cloud bursting
Avoid vendor lock-in
Exploit pricing
Fault tolerance

need interoperability
Image format not yet standard
Paravirtualized device interfaces vary
Hypervisor-level services not standard

need homogenization
Standardization could take years
Standardization is provider-centric
Least-common-denominator functionality

user-centric homogenization
No special support from provider
Can be done today
Custom, user-specific functionality
Use nested virtualization

overhead evaluation
Comparable to PV
Network can receive 1 Gbps
68% overhead (kernbench)

nested virtualization without hypervisor support
Use paravirtualization (Xen) for second layer
Blanket drivers deal with heterogeneous device interfaces
Assumption: Existing clouds offer full virtualization (HVM)

user-defined oversubscription
Can exploit price asymmetry
47% price reduction per VM per hour

blanket drivers
Based on PV-on-HVM
Need address translation
Need hypercall assistance
More details in paper (EuroSys '12)

multi-cloud live migration
All VMs have access to the same layer 2 virtual segment attached to the same bridge, that sees both clouds, connected through an SDN network.