

Managed Conversion of Guests to oVirt

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- Motivation
- Architecture
- Demonstration
- Implementation
- Future work

- There are many virtualization tools
- Different hypervisors
 - KVM, ESX/ESXi, Xen, VirtualBox, ...
- Different management systems
 - oVirt, virt-manager, vSphere, Ganeti, ...

- Virtualization technologies are used for a long time
- No standardization
- People are tied up to the technologies they currently use
- Conversion tools are needed!

- Part of virt tools
 - Open source virtualization management tools
- Foreign hypervisor -> KVM
- Standalone conversion tool

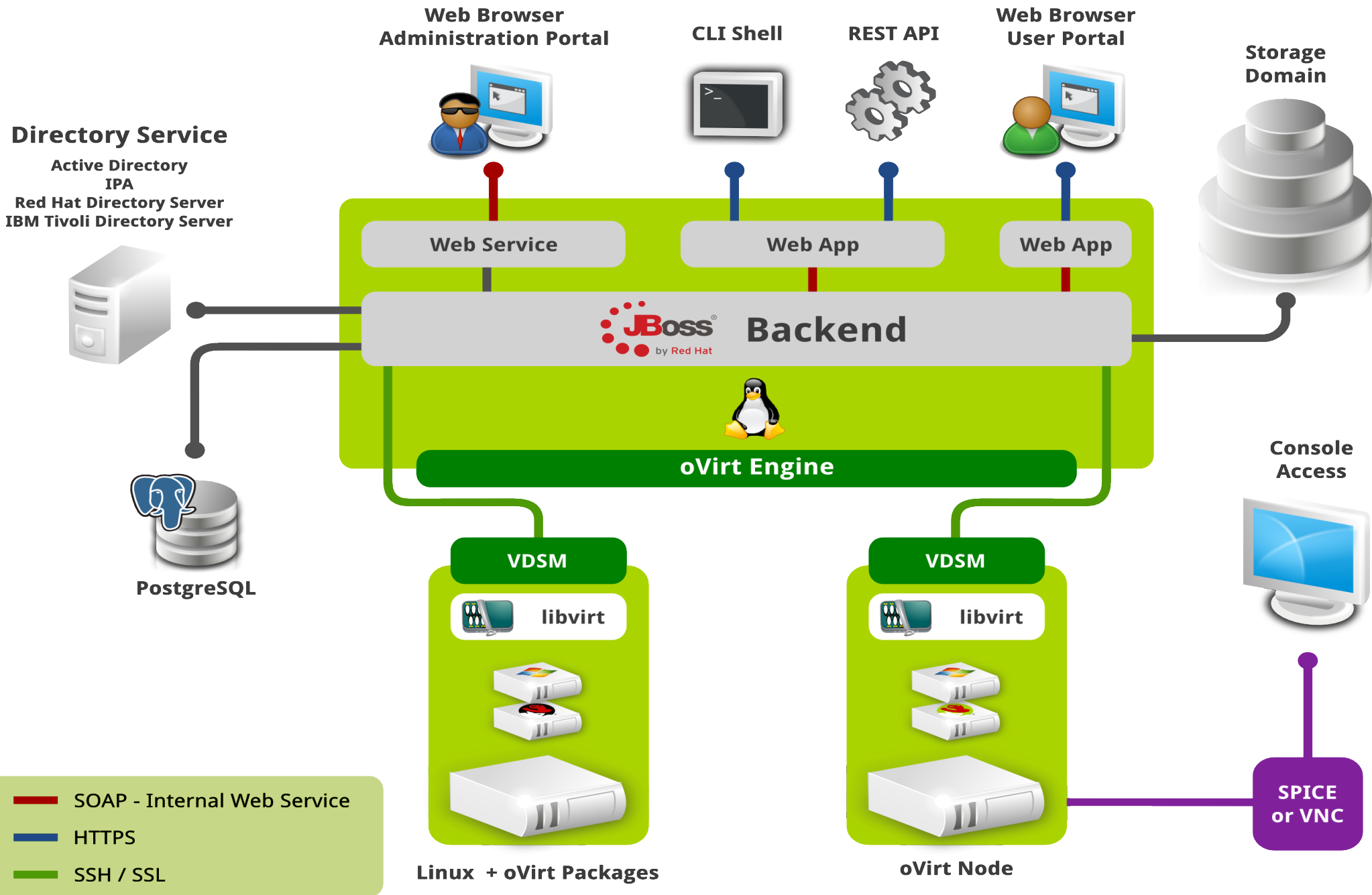
- Converts disk formats
- Enables VirtIO drivers (If needed)
 - Network, Storage
- Fixes boot-loader
- Produces full oVirt-compatible OVF
- Outputs the VM in oVirt's export domain

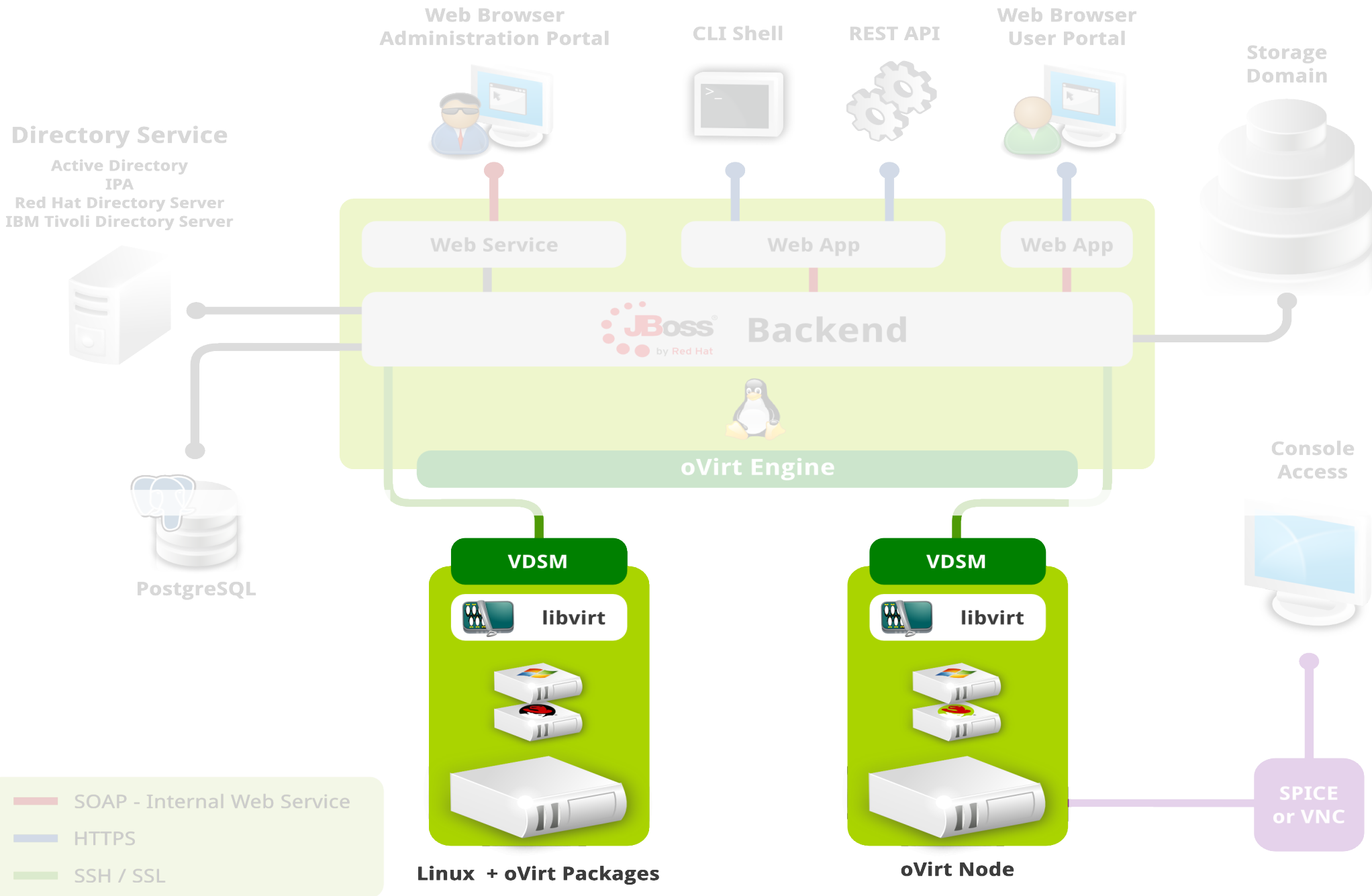
- Slow
- Tedious
- Error-prone
- Requires separate installation
- Do not support conversion of OVA files
- Error handling

Improve the conversion process to oVirt

- Faster
- Tools are available
- Graphical user interface
 - To configure
 - To monitor/cancel
- Robust
- Support conversion of OVA files

- Use virt-v2v capabilities
 - For guest-level operations
- oVirt manages the conversion
 - Configure conversion properties in admin portal
 - Create disks
 - Monitor conversion progress
 - Cleanup on errors

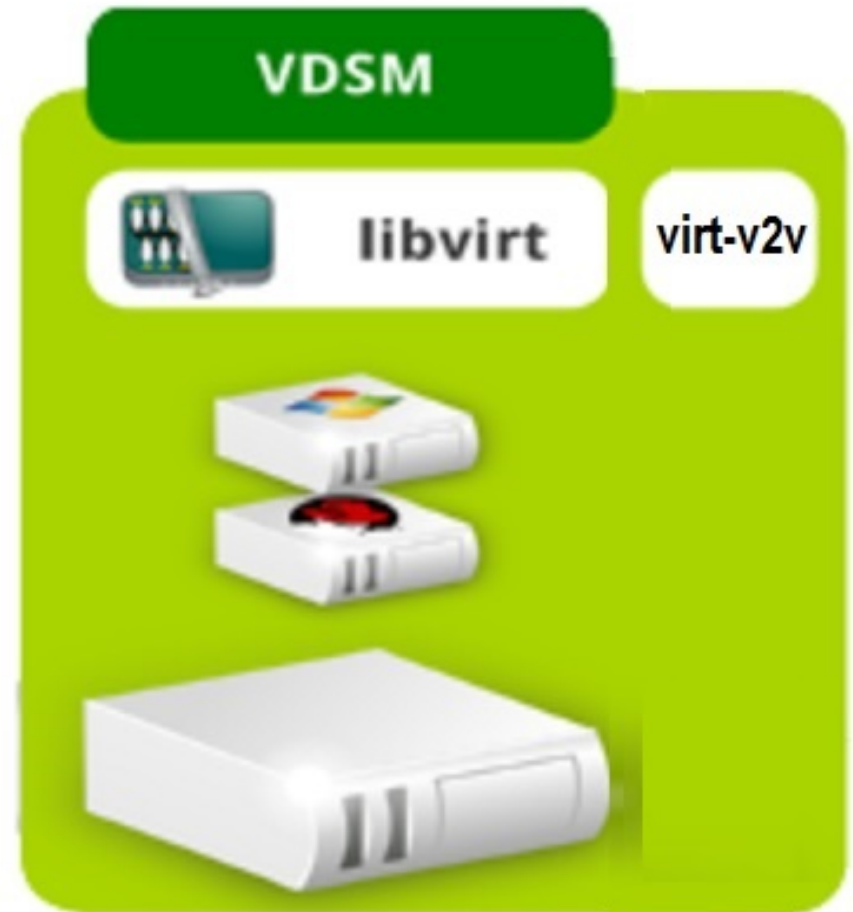




oVirt How virt-v2v is integrated in oVirt?



oVirt virt-v2v is installed on each host



List

```
graph TD; List([List]) -- VMs --> Selection[User selects the virtual machines to be imported and defines the conversion properties]; Selection -- Conversion properties --> Import([Import]);
```

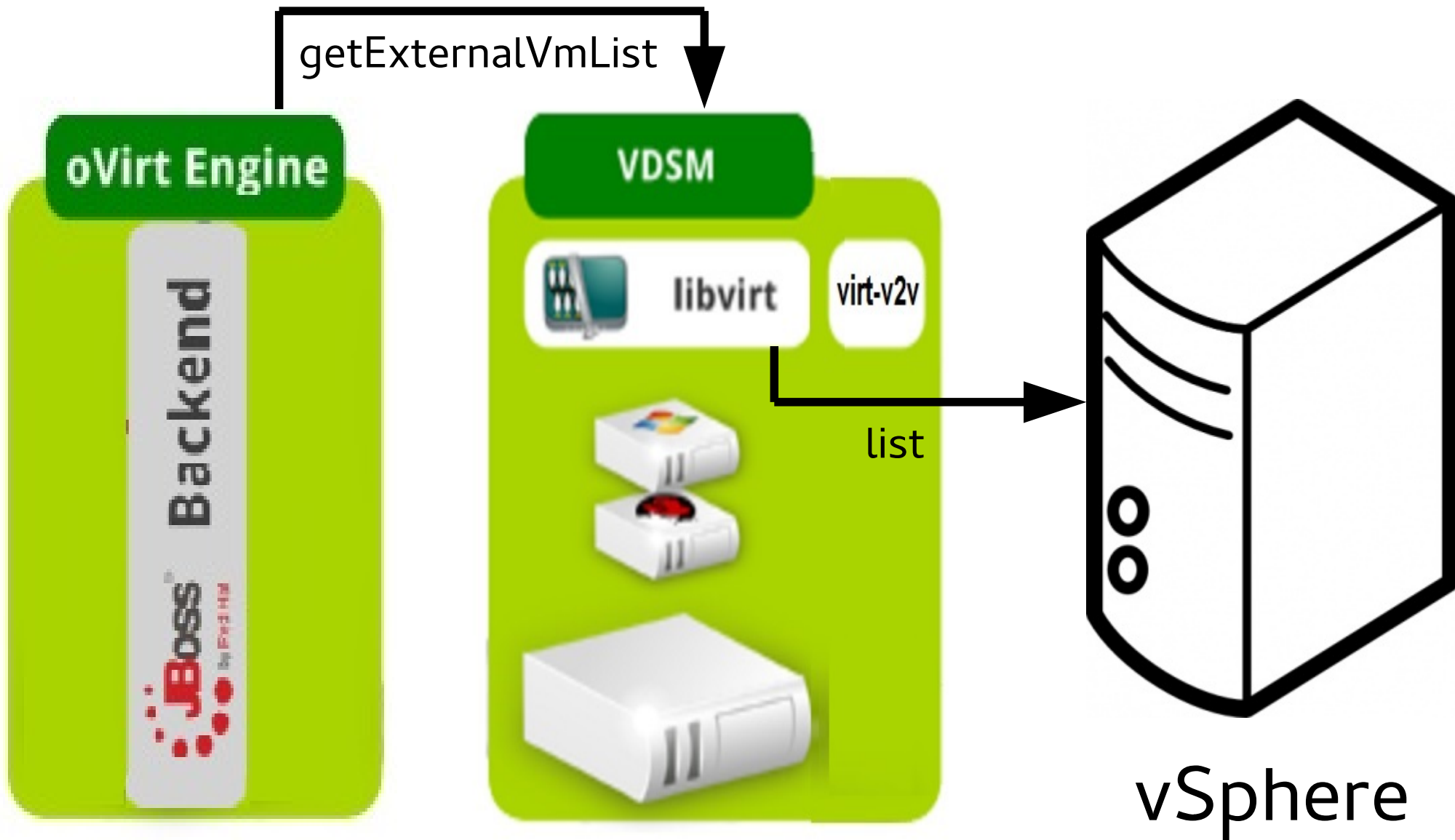
VMs

User selects the virtual machines to be imported and defines the conversion properties

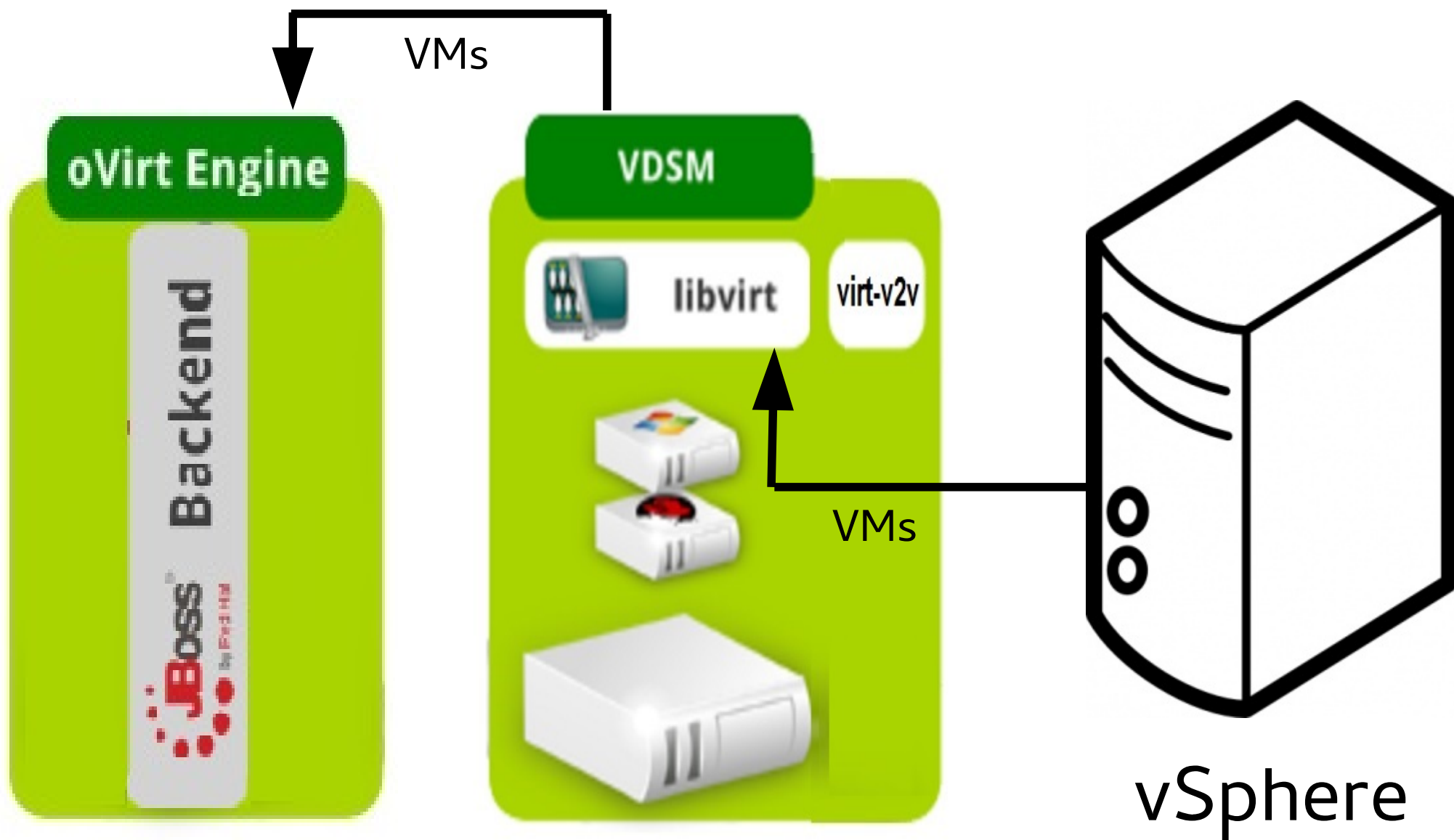
Conversion properties

Import

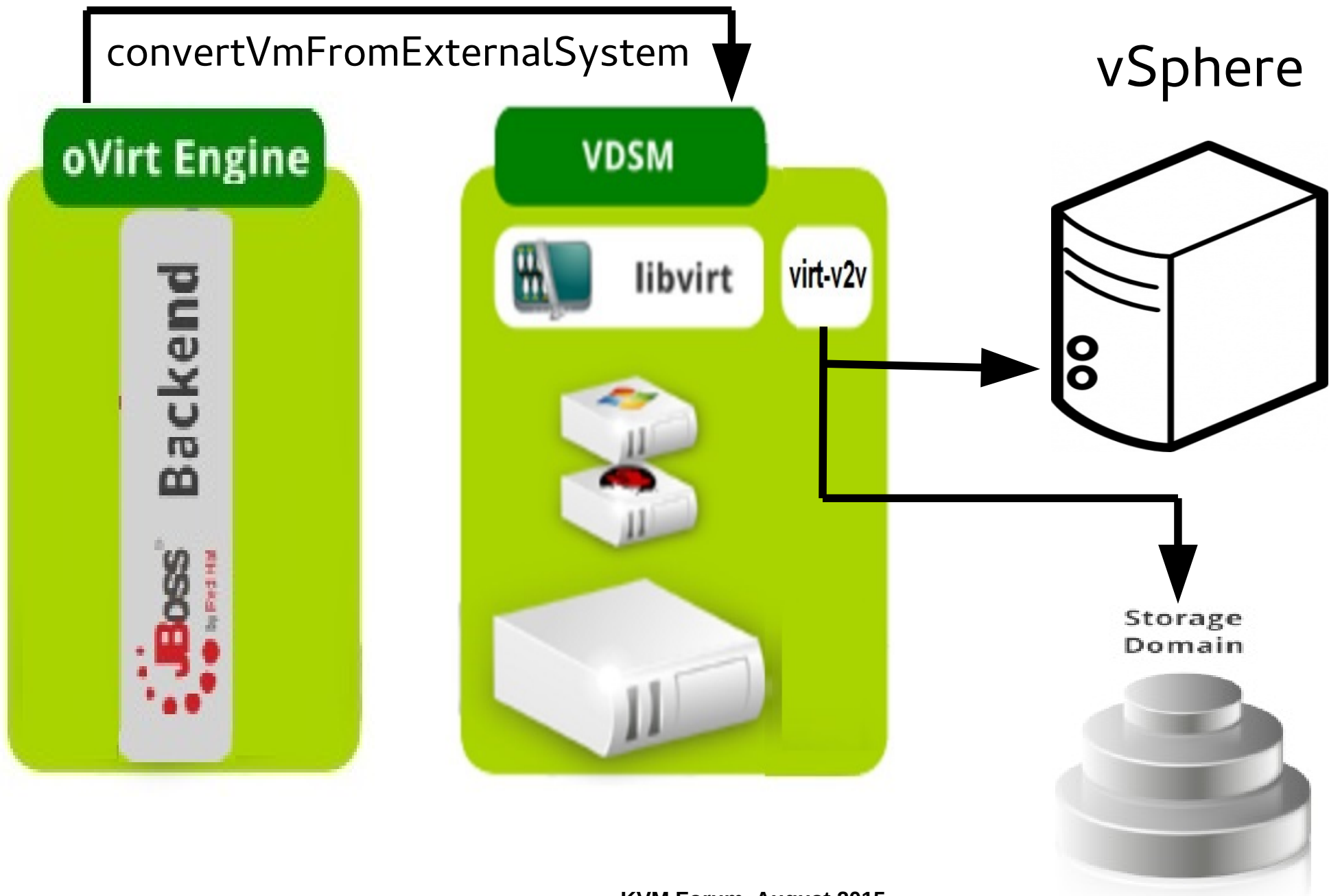
List VMs from VMware (1)



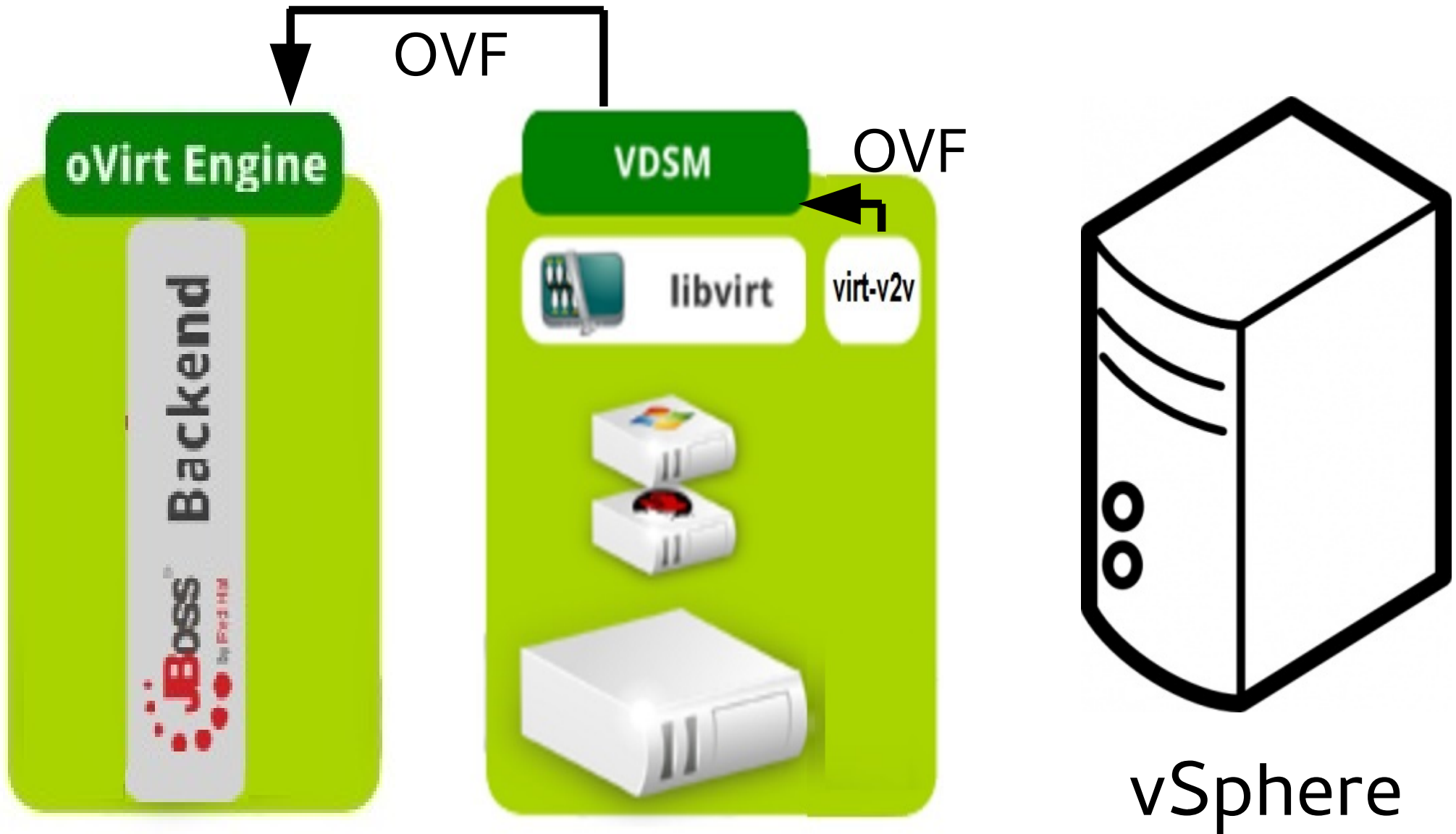
List VMs from VMware (2)



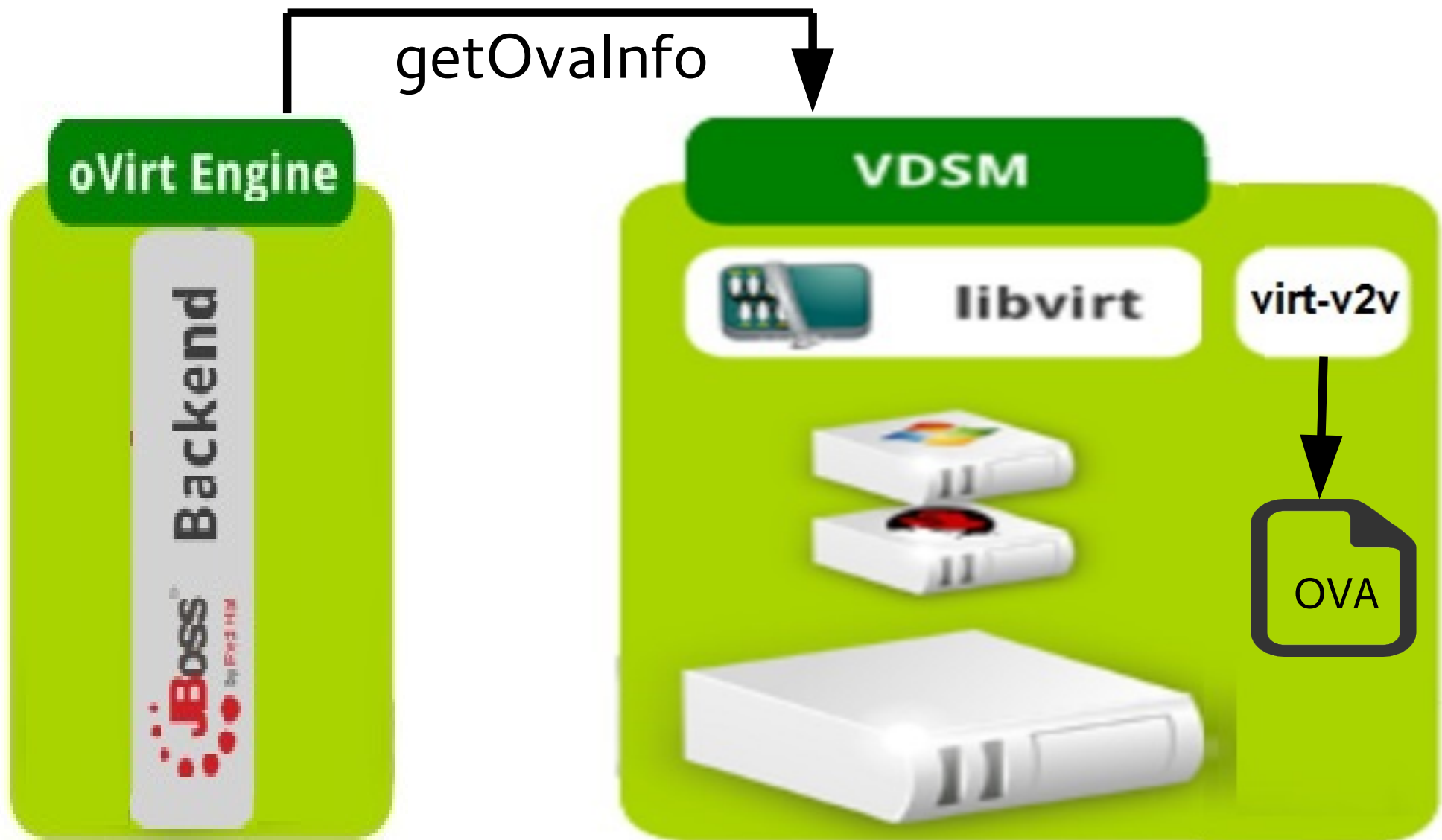
Convert VM from VMware (1)



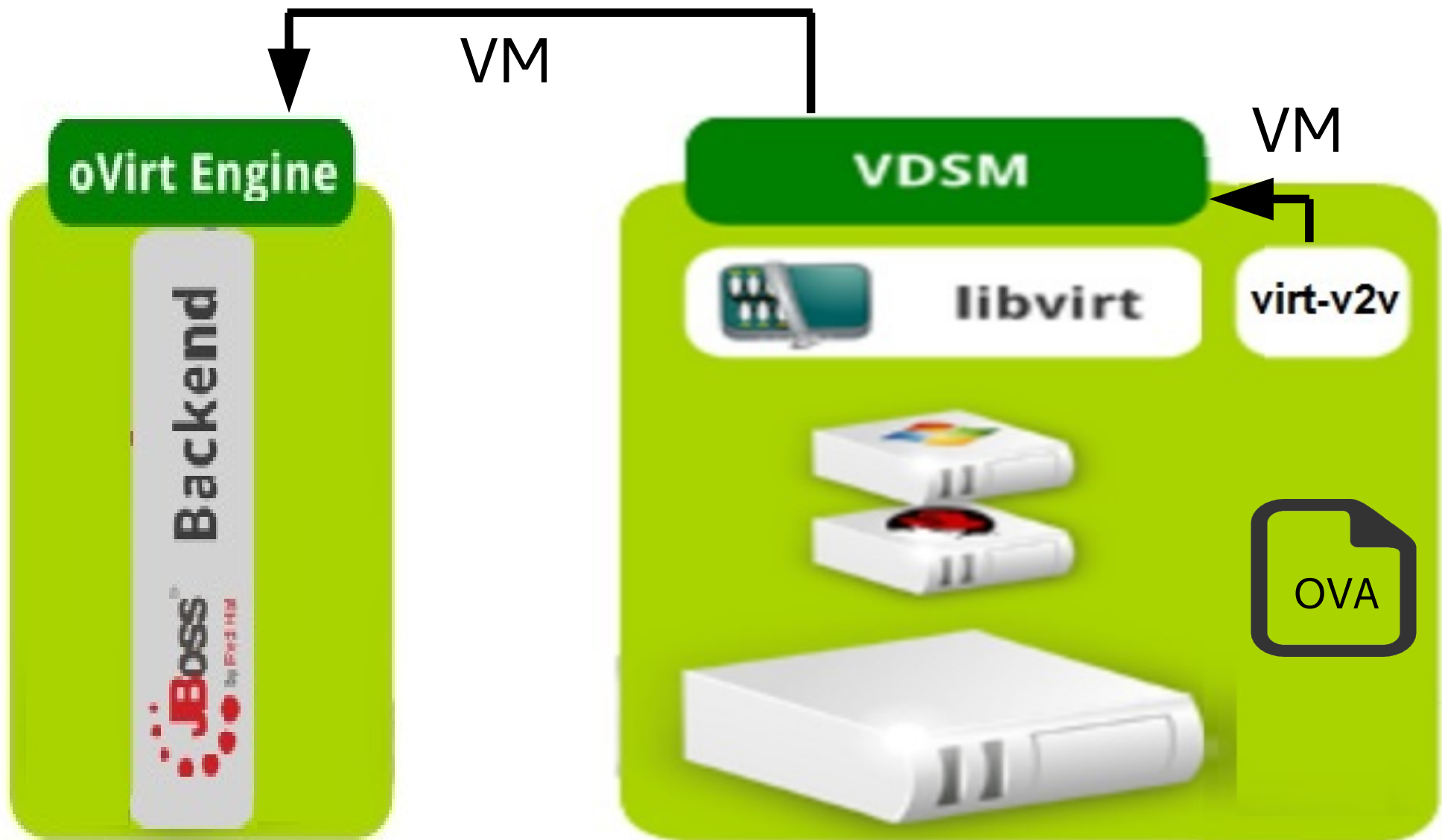
Convert VM from VMware (2)



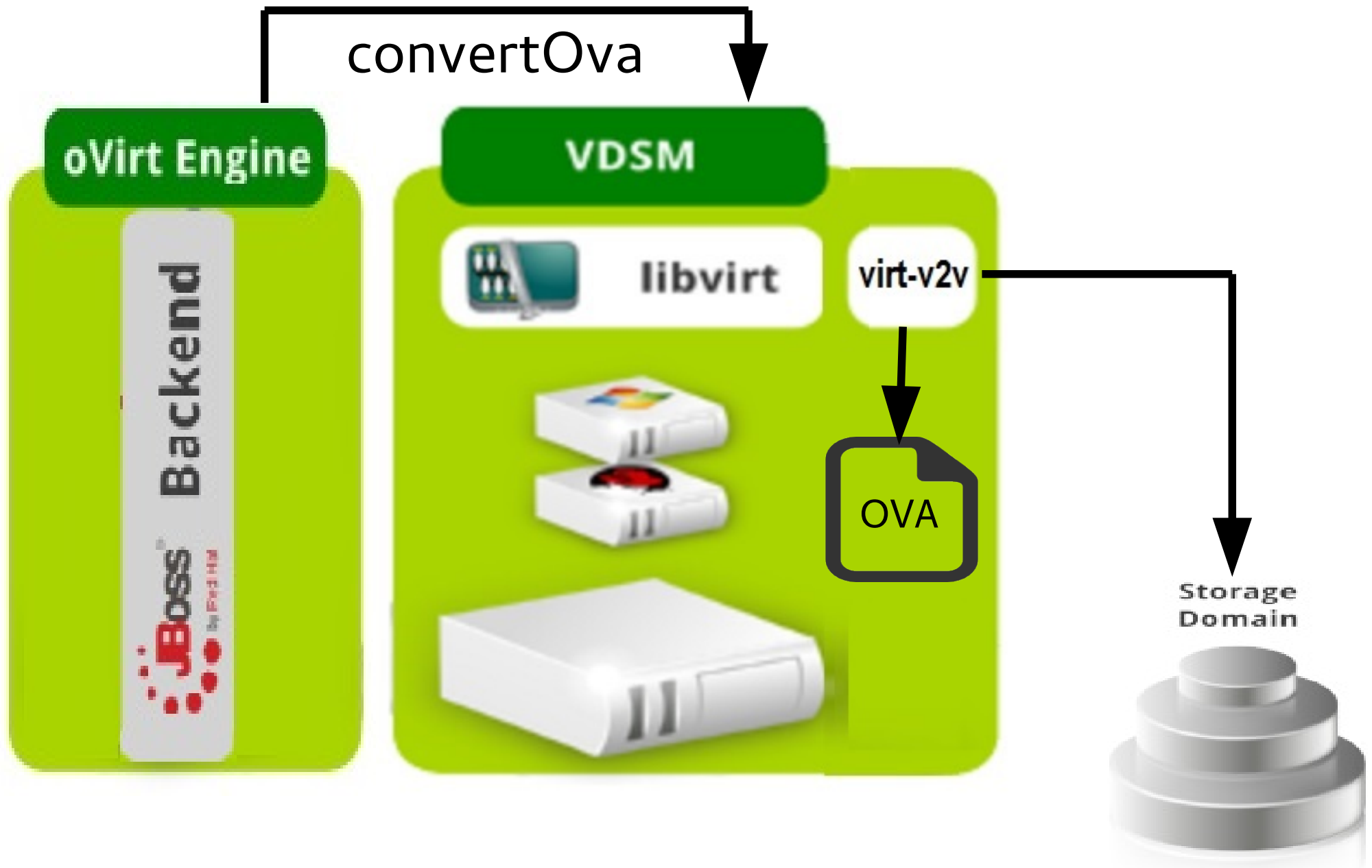
oVirt List VM from virtual appliance (1)



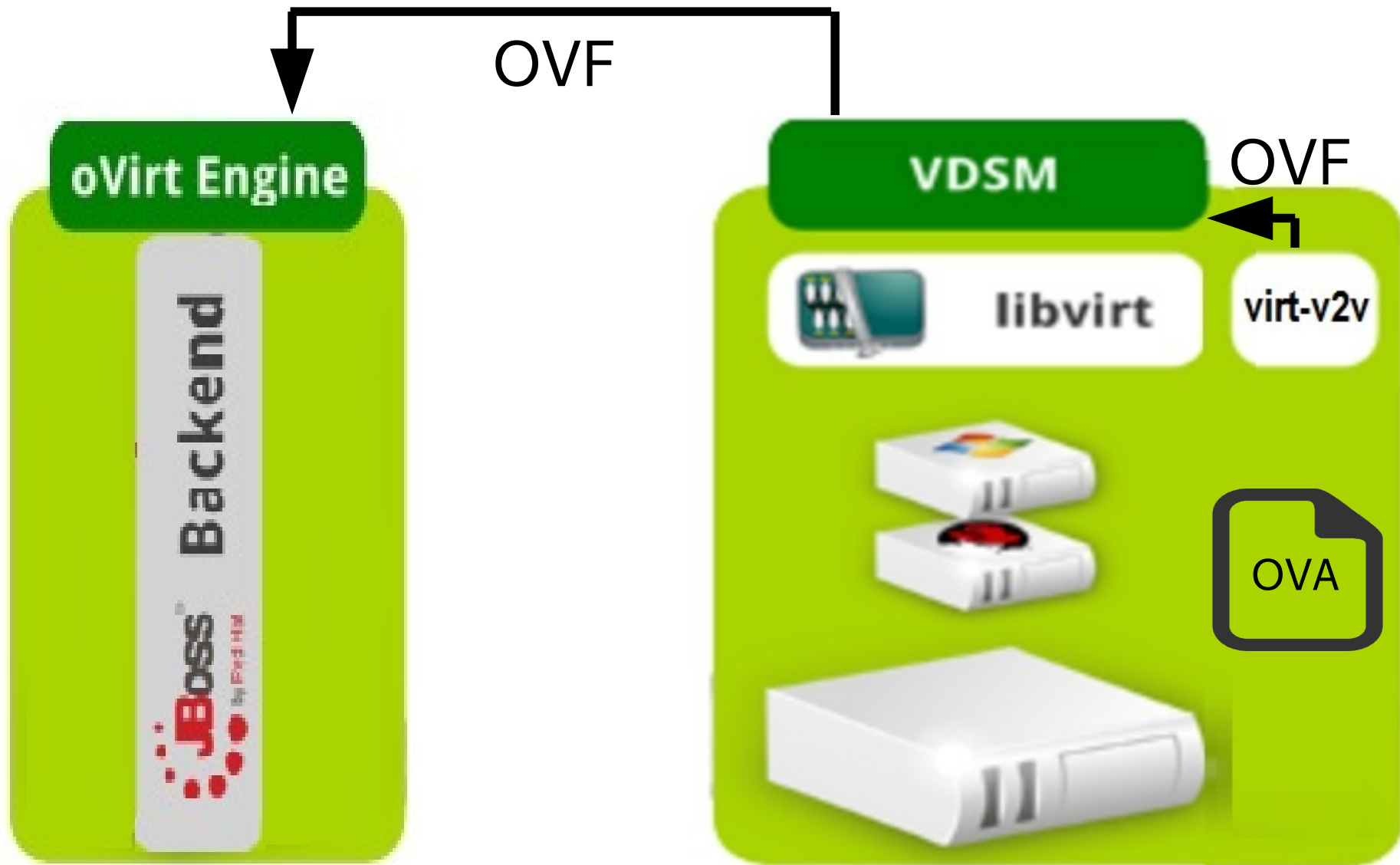
oVirt List VM from virtual appliance (2)



oVirt Convert VM from virtual appliance (1)

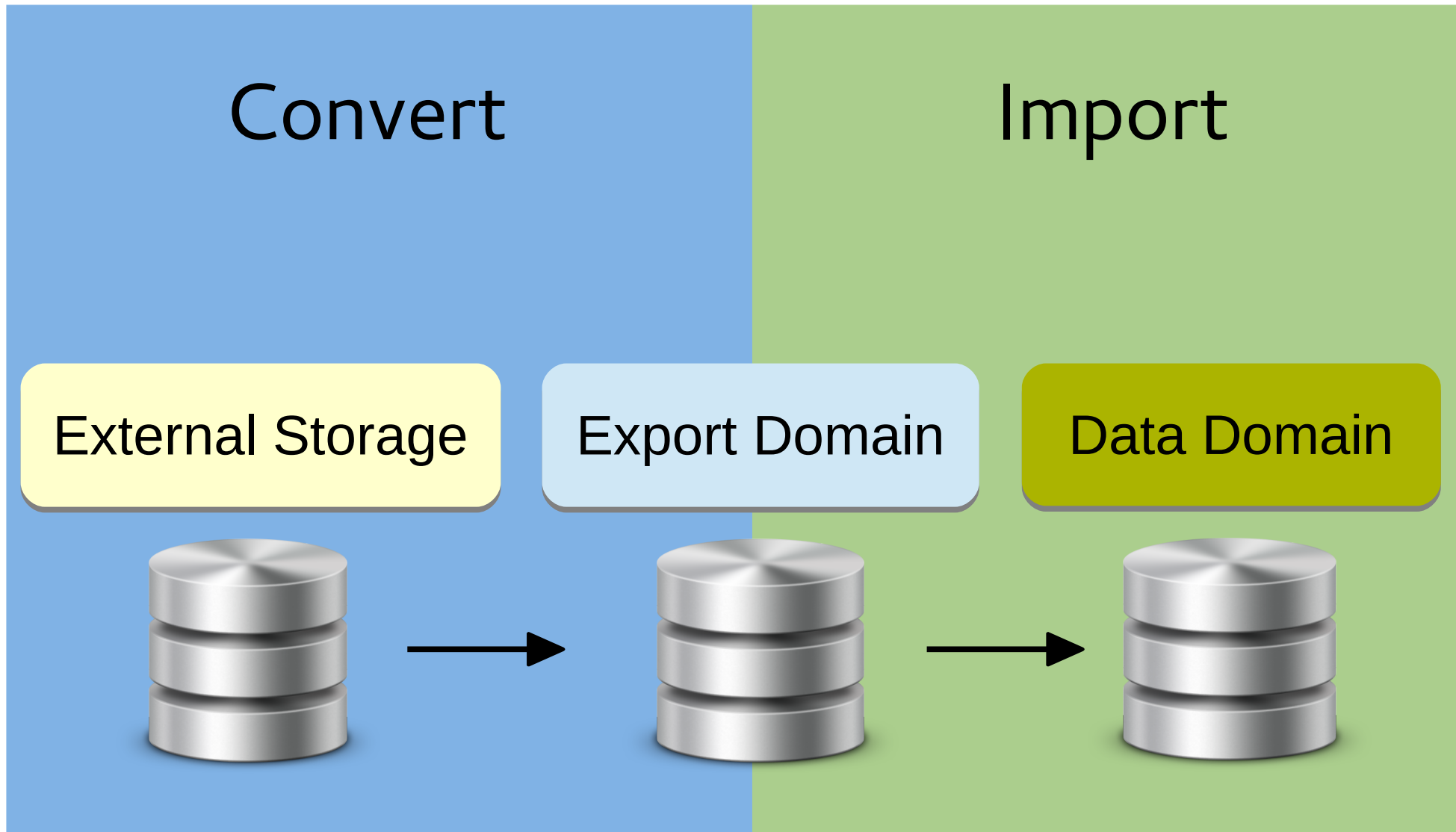


oVirt Convert VM from virtual appliance (2)



(1) Convert
using virt-v2v

(2) Import
using oVirt



External Storage

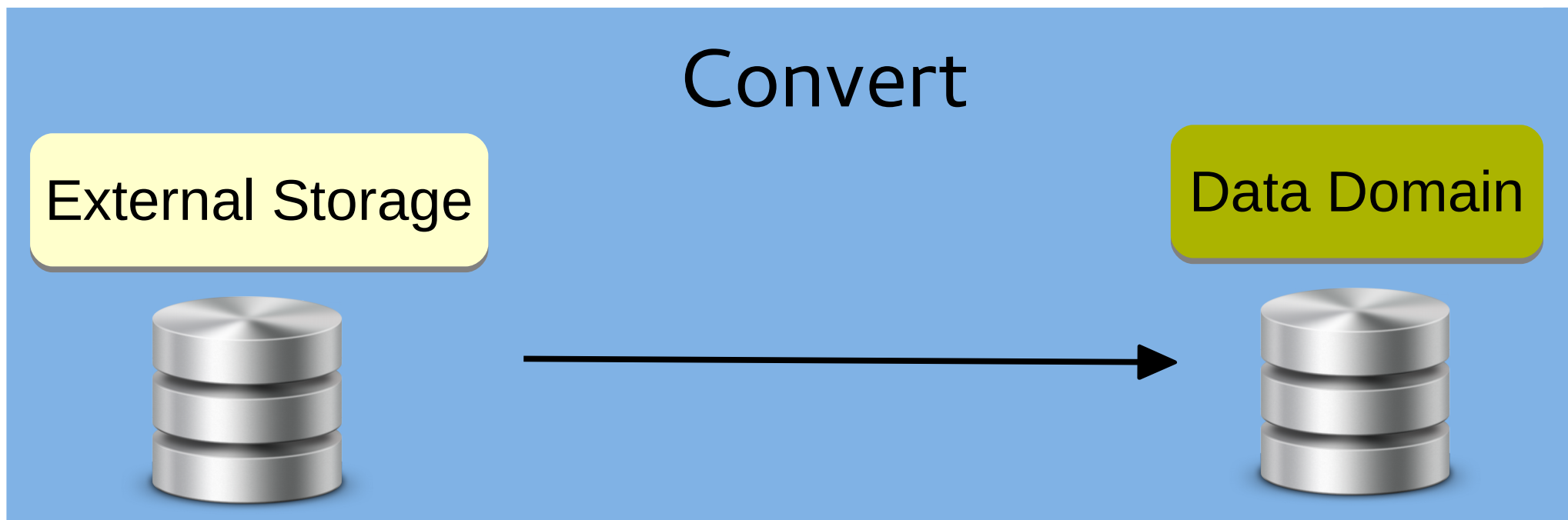


Export Domain

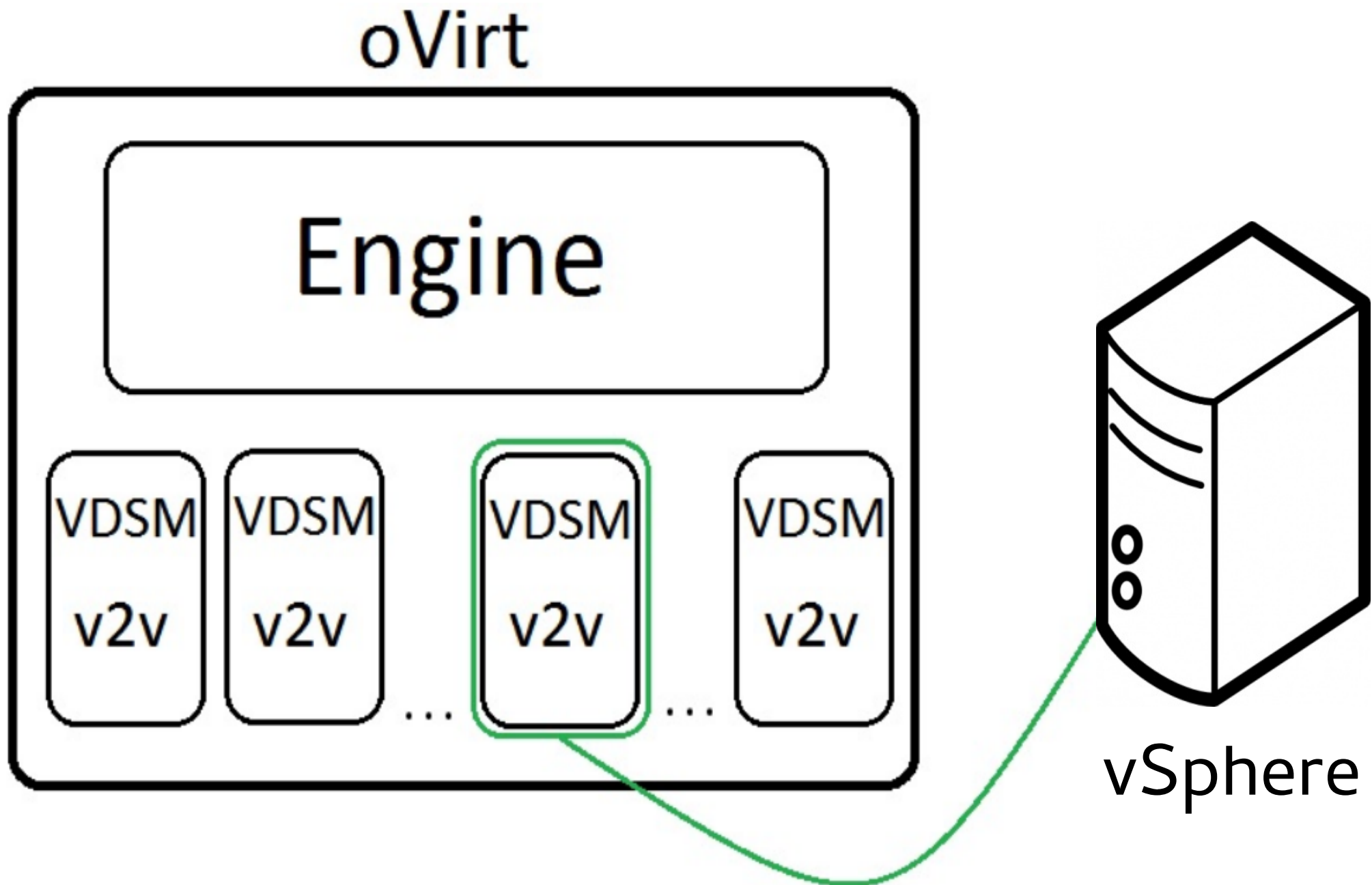


Data Domain





oVirt Using a proxy



- Validations to prevent failures
 - Free space validation
 - Block import of running Vms
- Rollback upon conversion failure

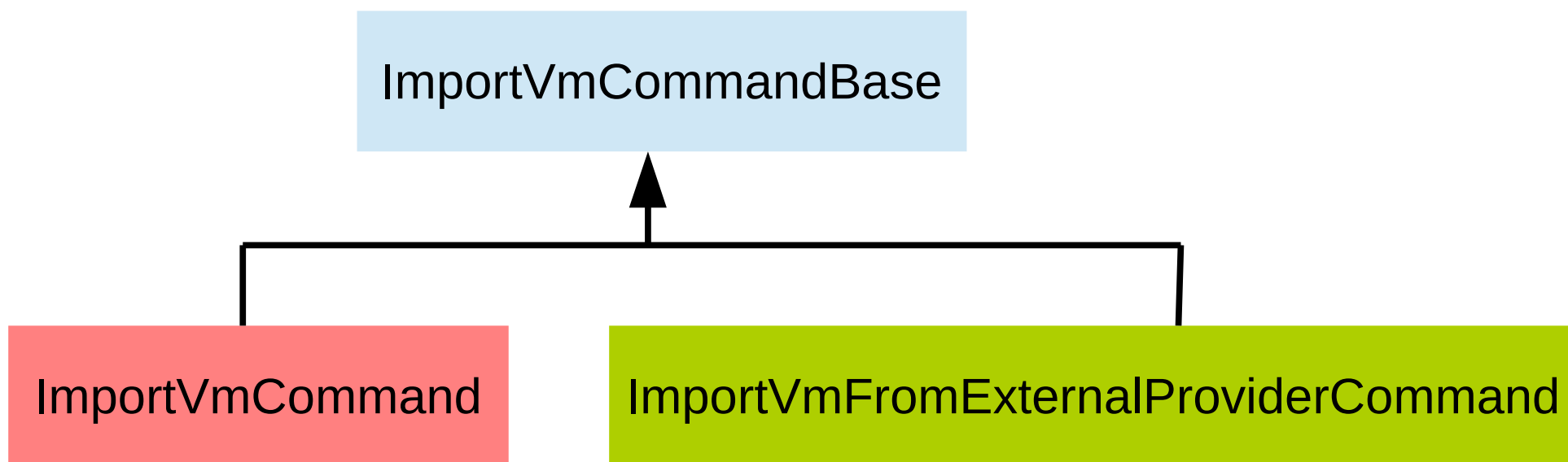
Demonstration

<https://www.youtube.com/watch?v=yEjckA-FriU>

- Adjust virt-v2v to conversion that is managed by oVirt
- Generalize the existing import command in oVirt to support VMware & OVA as sources
 - Leverage existing functionality
 - Extensible for other sources

- Support VDSM as an output
 - Copies to given disks
 - Produce VM configuration in a given path
 - Configurable virtio-win drivers
- Support virtual appliance as a source
- Support u/s virtio-win iso

- VDSM bridges the engine and virt-v2v
- Generalize import from export-domain



- New import-VM dialog & VM-providers

- Sources that are supported by virt-v2v
 - Xen, Libvirt, Hyper-V
 - Should be similar to import from VMware
- Enhance import of virtual appliance
 - OVA files from ISO-domain
 - Uploaded OVA file
- Physical hosts
 - Using virt-p2v

- Stable API for monitoring virt-v2v progress
 - Alternative for parsing output stream
 - Error codes
 - Events
- Enhance the API with virt-v2v
 - Support multiple destination storage domains
 - Support volume type per-disk

- Generalize 'v2v jobs' to non-SPM jobs
- Common configuration for imported VM
- Extend configurable properties of imported VM

THANK YOU!

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