

# Open Virtualization Format

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Some Background

- Started 2007
- *"open, secure, portable, efficient and extensible format for the packaging and distribution of software to be run in virtual machines"*
- VMware, Dell, HP, IBM, Microsoft and XenSource are all part of the party

# Software Support

- Oracle VM
- VirtualBox
- Red Hat Enterprise Virtualization
- Vmware
- Various IBM systems
- As well as some others

- Describes how to run a VirtualSystem or a VirtualSystemCollection
- Think Launchplan + Orchestration + Images
- Generally Consists of:
  - An .ovf xml file (describing the VirtualSystem)
  - 1 or more images (format agnostic)
  - Additional resources required to run the VirtualSystem

# Packaging OVF as an OVA

- Packaging format for OVF
- Tar archive with .ovf file, images and resources
- Can contain signatures to verify the package and package contents
- Here is one to play with:  
[http://download.oracle.com/otn/other/virtualbox/dd/Oracle\\_Developer\\_Day.ova](http://download.oracle.com/otn/other/virtualbox/dd/Oracle_Developer_Day.ova)

# OVF sections

Comprehensive spec can be found at:

<http://www.dmtf.org/standards/ovf>

# Envelope Section

- Metadata about this metadata \o/
- File references, content descriptions...
- Can specify a compression for file references as well as chunking
- Includes extensibility section where optional attributes can be specified



# Virtual Hardware Description

- Each VirtualSystem can have 1+ VirtualHardwareSections
- Describes hardware required to run the Vsystem.
- Attributes such as CPU, Memory, Net, Storage...
- Mentions hypervisor requirements.

# Core Metadata sections (v2.0)

- DiskSection
- NetworkSection
- ResourceAllocationSection
- AnnotationSection
- ProductSection
- EulaSection
- StartupSection
- DeploymentOptionSection
- InstallSection
- EnvironmentFilesSection
- BootDeviceSection
- SharedDiskSection
- ScaleOutSection
- PlacementGroupSection
- EncryptionSection
- OperatingSystemSection

# Some Interesting sections

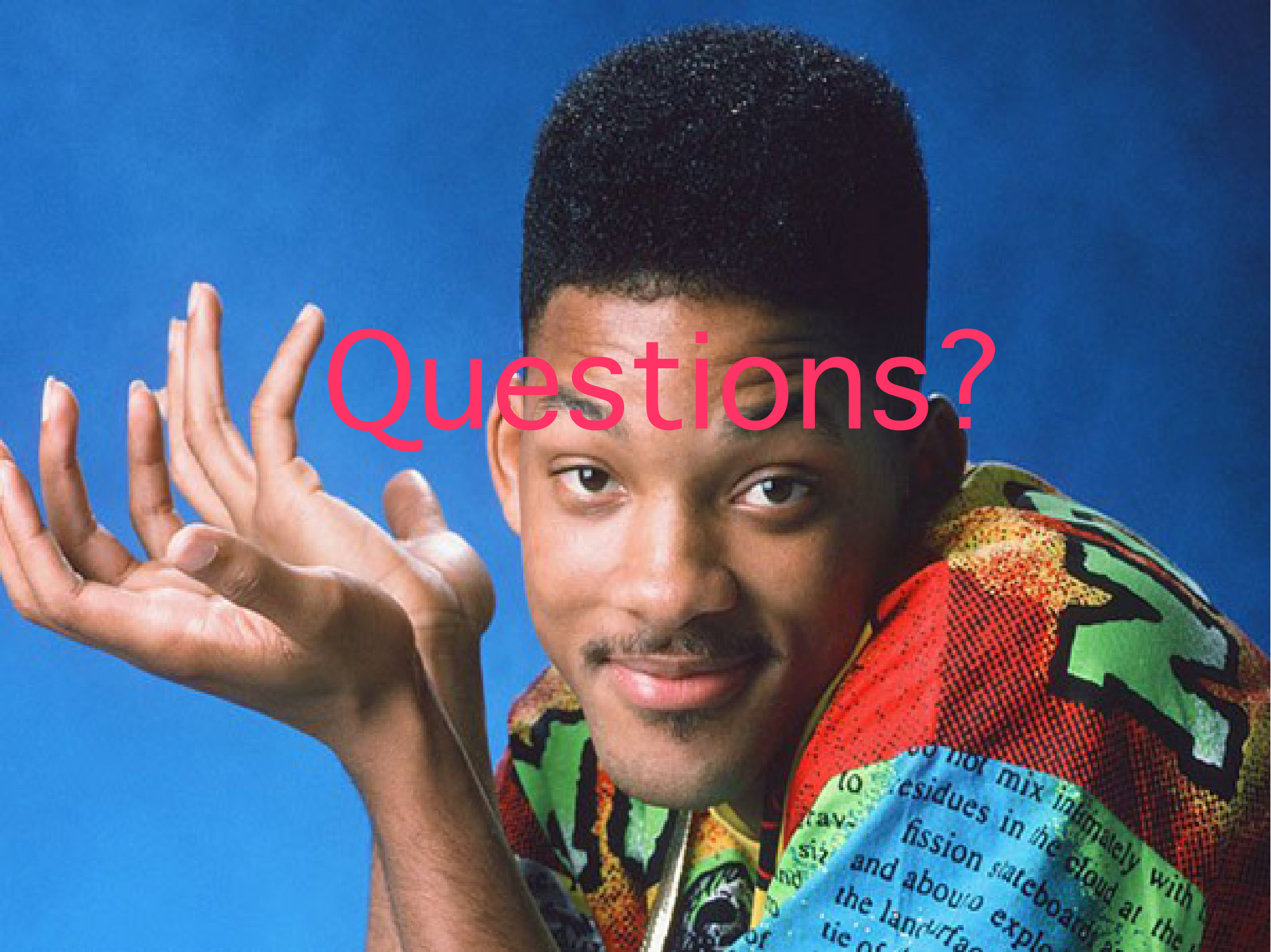
- **DiskSection**
  - Can reference empty disks (created on boot)
- **NetworkSection**
- **ResourceAllocationSection**
- **StartupSection**
  - Boot order, delays between boots...
- **ScaleOutSection**
  - Scale number of Vsystems at deployment time ONLY
- **PlacementGroupSection**
  - Specify policy – availability (place apart), affinity (place close)

# Environment Transport

- Specifies a method to communicate environment information to Vsystem (think metadata url)
- Common method is “ISO” - provides a CD-ROM interface to the Vsystem which contains the environment data
  - File called ovf-env.xml at root directory
- Otherwise a URI
- Note: More environment can be sent to the vm via the EnvironmentFiles metadata section

# Library Support

- Not great
- OpenOVF
  - Open Open Virtualization Format :/
  - IBM baby
  - <http://gitorious.org/open-ovf>
  - No longer under active development



Questions?