100% virtualized...

...on Apple hardware

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Moving businesses forward through IT

Situation before...

Situation before...

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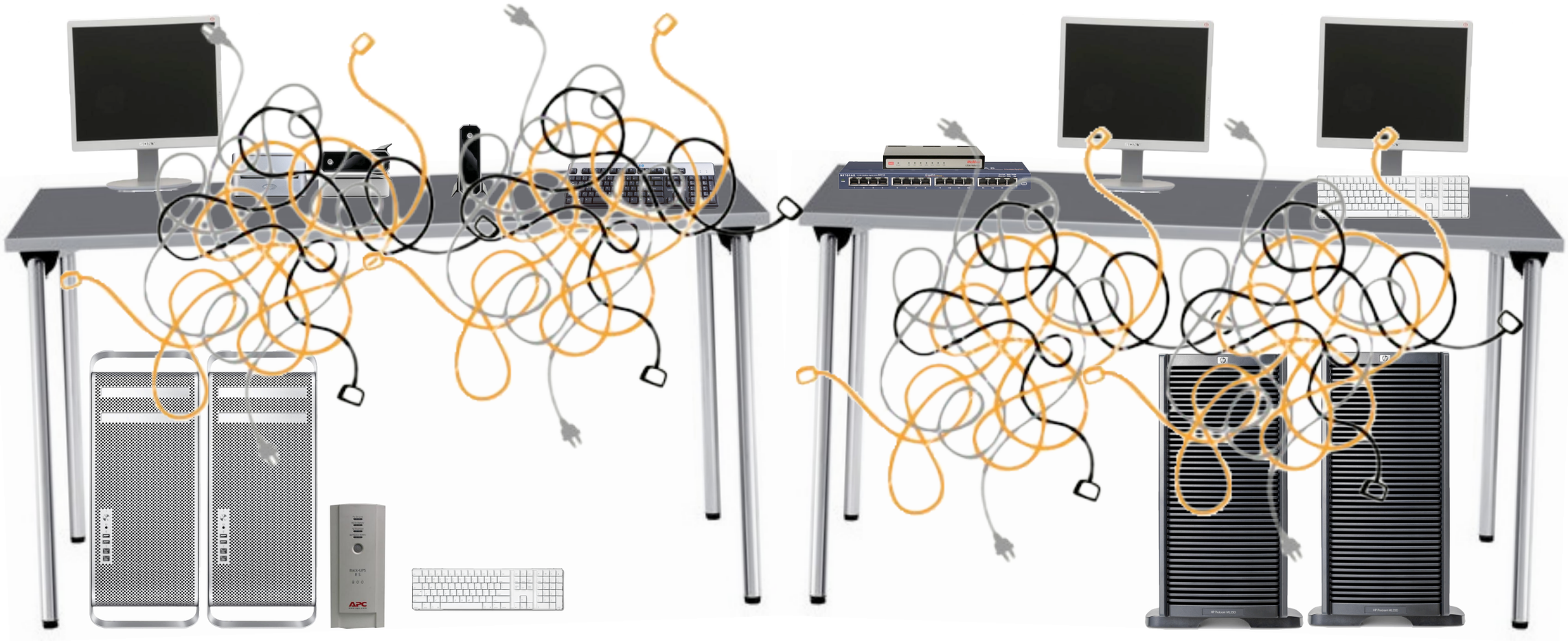

Situation after...

Physical restructure

- Server virtualization did not exist for Apple
- To much different hardware
- A lot of the hardware was aged

- 42U Rack
- New hardware, on rack-shelfs
- New network-equipment and a KVM-switch

Reasons to virtualize

- Easier administration
- Uniform backup, regardless of OS and app
- Fewer applications per OS
- Rapid deployment of new machines for test or dev
- Less dependent of the physical hardware

Parallels Bare-Metal Server

- Training and certification, before access to the software
- Specific Mac edition, not the same installer as for the PC-hardware
- Latest Mac hardware where not fully supported

ESXi support on Apple

- Apple's Xserve supported with the release of VMware ESXi 5.0 in Aug. 2011
- Unfortunately the Xserve was discontinued in Jan. 2011
- Apple's Mac Pro supported with release of VMware ESXi 5.1
- Mac mini works with ESXi 5.0U2 and up, but is unsupported by VMware

http://tiny.cc/virtualosx

Free Hardware

- 3 Mac Pro’s (2x 2008-version and 1x 2009-version)

Free Hardware

- 3 Mac Pro's (2x 2008-version and 1x 2009-version)
  - Extra NIC's
  - Extra RAM
- Synology RS812+
- Eaton 5PX2200 UPS + Eaton Extended Battery Module

Licensing of OS X

- Individual licenses for each installed OS
- No licens-keys
- Not tied to the hardware

http://tiny.cc/virtualosx

To-P2V or not To-P2V

- P2V of OS X is not supported by VMware Converter
- Possible to do a manual conversion, via CLI tools in VMware Fusion

Template of OS X

- No “sysprep” for OS X
- Possible to do a clean-up script, but no complete guide for what needs to be cleaned
- Without “sysprep” unique IDs is not reset

Never booted OS X VMDK

OS X
Installer DMG

System
Image
Creator

Read-Only
Customized
OS X DMG

http://tiny.cc/sic-tool

http://tiny.cc/osxvmdk

Never booted OS X VMDK

Read-Only
Customized
OS X DMG

Disk Utility

Read-Write
Customized
OS X DMG

http://tiny.cc/osxvmdk

Never booted OS X VMDK

Read-Write
Customized
OS X DMG

VMware
Tools

Customized
OS X DMG
w/ VMware Tools

http://tiny.cc/osxvmdk

Never booted OS X VMDK

Customized
OS X DMG
w/ VMware Tools

VMware Fusion CLI

Thick
VMDK

http://tiny.cc/osxvmdk

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VMDK

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Best practices settings

- Deactivate all screensavers
- Deactivate Energy-functions
- Activate “Remote Administration” / VNC
- 2 vCPU’s if Open Directory is to be used

- Problems with resizing of virtuelle HFS+ partitions

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Special workloads

- Virtuel firewall
- EFI Fiery XF (Printer RIP) - Requires USB dongle
- Odystar (PDF workflow) - Requires USB dongle

Backup of virtual OS X

- Possibility to use traditional “agent-based” OS X products
- Or use products that support VADP
- Chose to go with Veeam Backup & Replication
  - Because of File-Level Recovery from HFS+ partitions

Questions?

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Links

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