



High Availability with Virtualization

Arie de Groot



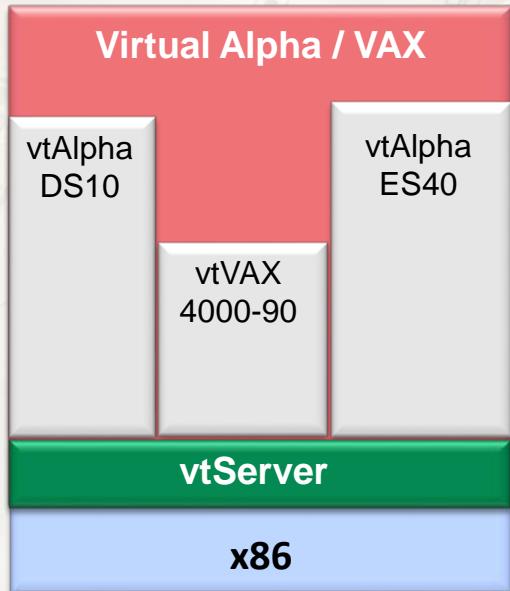
It starts with VMS . . .



Advanced Virtualization Technologies

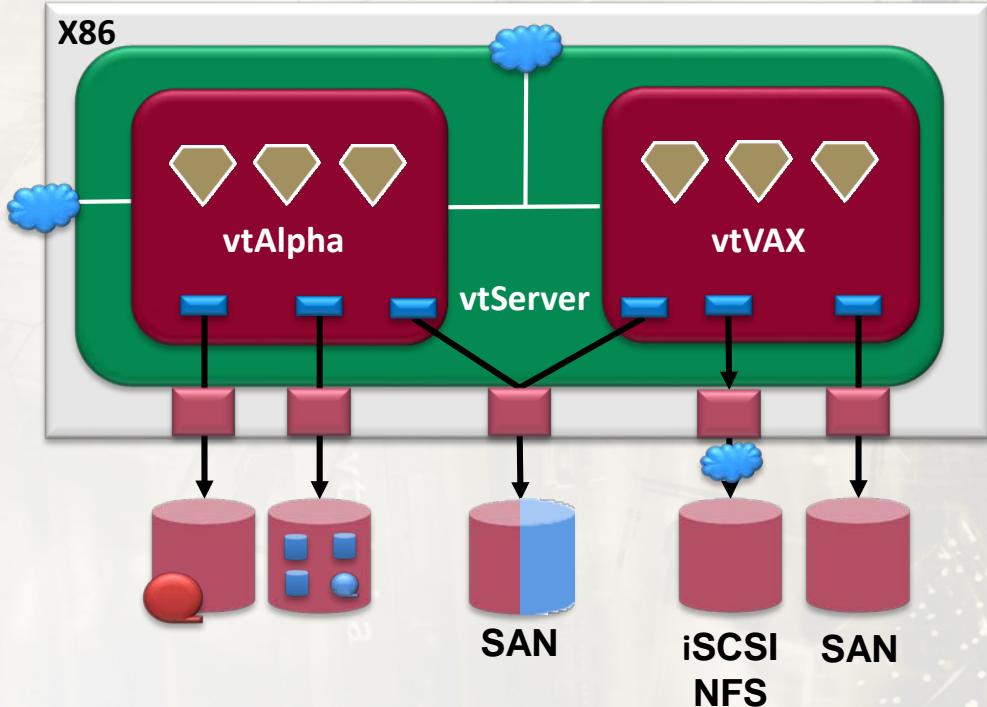
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Virtualization Principle



- Host computer
- Install AVTware
- Define virtual equivalents
- Copy disk content
- Continue normal operation
- No SW changes, only HW

Architecture



FibreChannel

- Technology Transparency
- 3PAR, Hitachi, EMC, < 8.4 VMS
- Auto-Detect Storage Structure
- Sharing FC adapters
- Virtual Zoning

vtAlpha

AlphaStation 200, 250, 255, DEC3000

AlphaServer 300, 400

AlphaServer 800, 1000

AlphaStation 500, 600, DPW, XP900, XP1000

AlphaServer 2000, 2100

AlphaServer 4000, 4100

AlphaServer DS10, DS15

AlphaServer DS20, DS25

AlphaServer 1200

AlphaServer ES40, ES45, ES47

AlphaServer GS80, GS160, GS320

vtAlpha-AS

vtAlpha-BS

vtAlpha-CS

vtAlpha-DS

vtAlpha-ES

vtAlpha-GS (Q2/2015)



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vtVAX

VAXstation II, GPX, 2000, VAXserver 3600/3900 VAXstation 4000	vtVAXstation
MicroVAX II, 2000 MicroVAX 3100 - 3900 VAX 4000	vtVAX-128 (+ AC)
MicroVAX 3100 VAX 4000 VAX 6000	vtVAX-256 (+ AC)
MicroVAX 3100 VAX 4000 VAX 6000	vtVAX-512 (+ AC)
VAX 6000 1 – 6 CPU, up to 3.5 GB memory VAX 7000 1 – 6 CPU, up to 3.5 GB memory	vtVAX-7000

Bare Metal

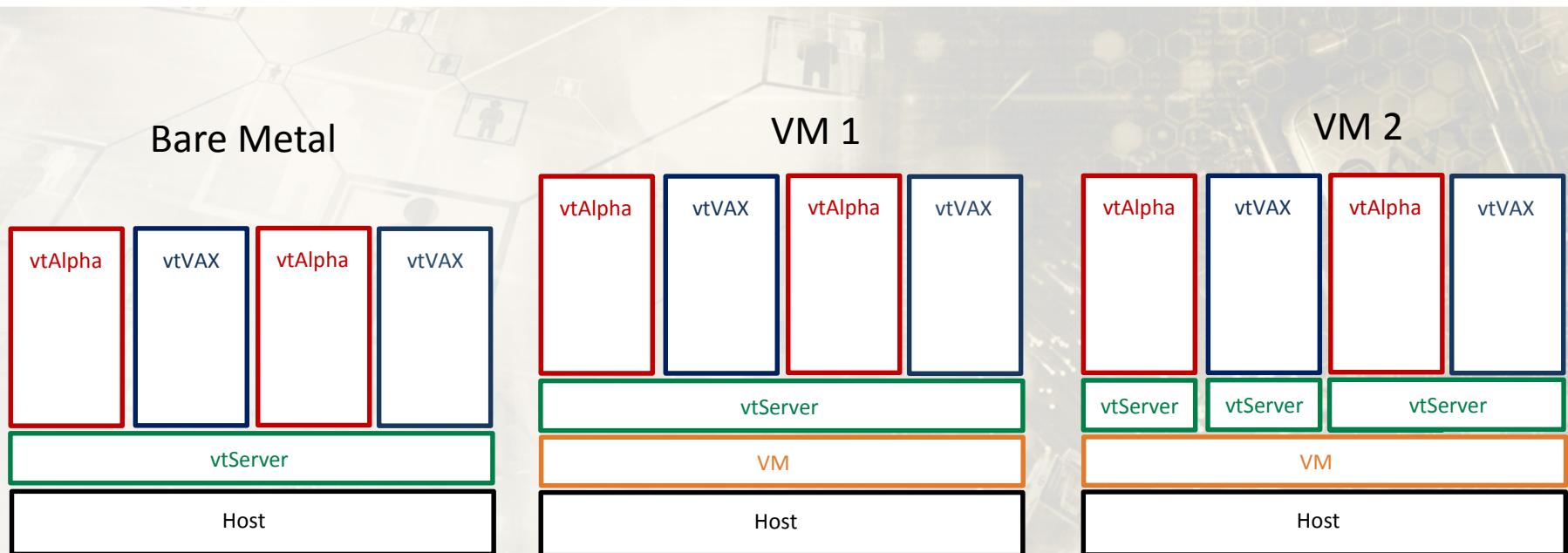
- ~~Windows~~
 - ~~Linux~~
- }
- Complete Host Control
 - Virtual Machine Manager
 - Stable & Secure
 - Single Point of Contact
- No cost, no maintenance, no problems



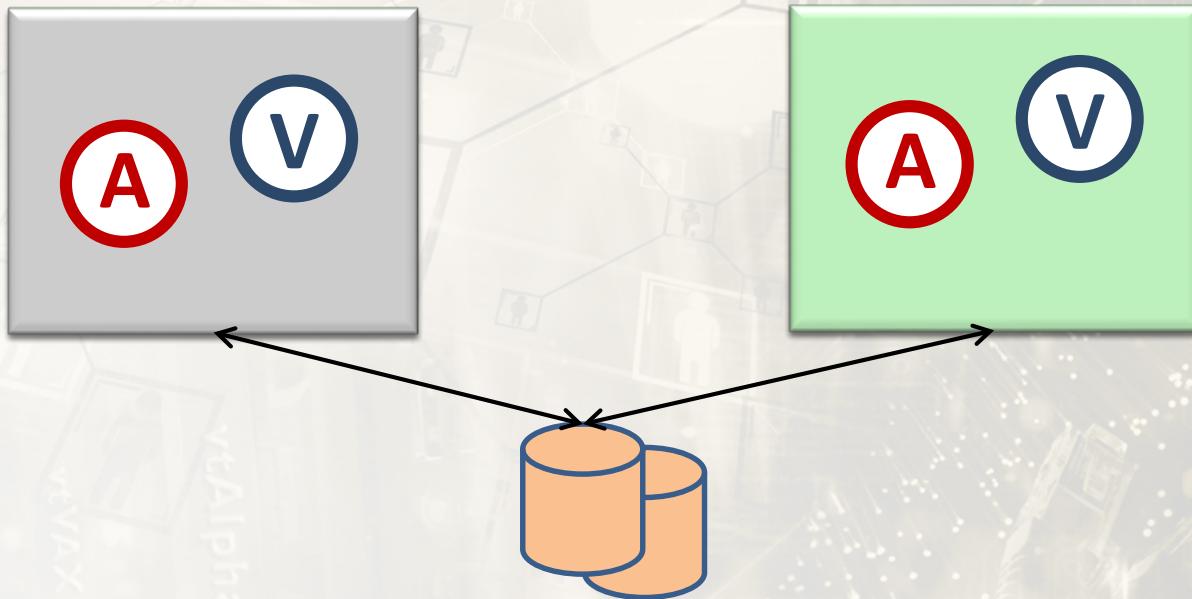
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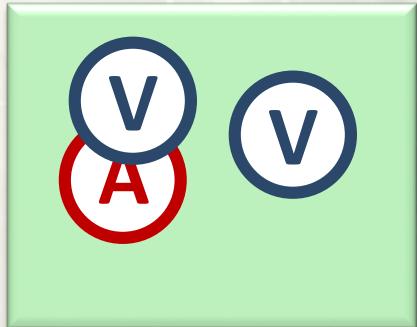
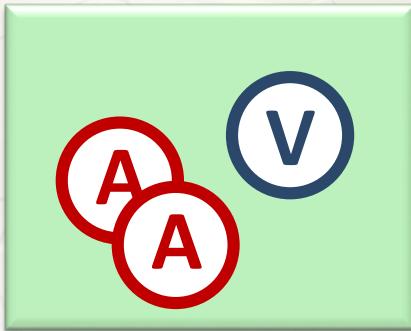
Virtualization²



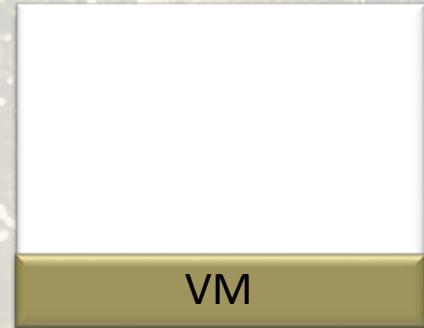
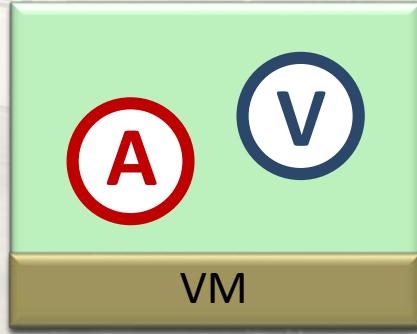
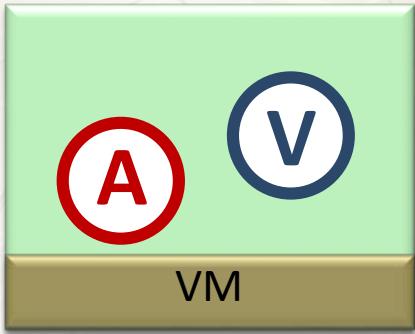
Cold Stand-by



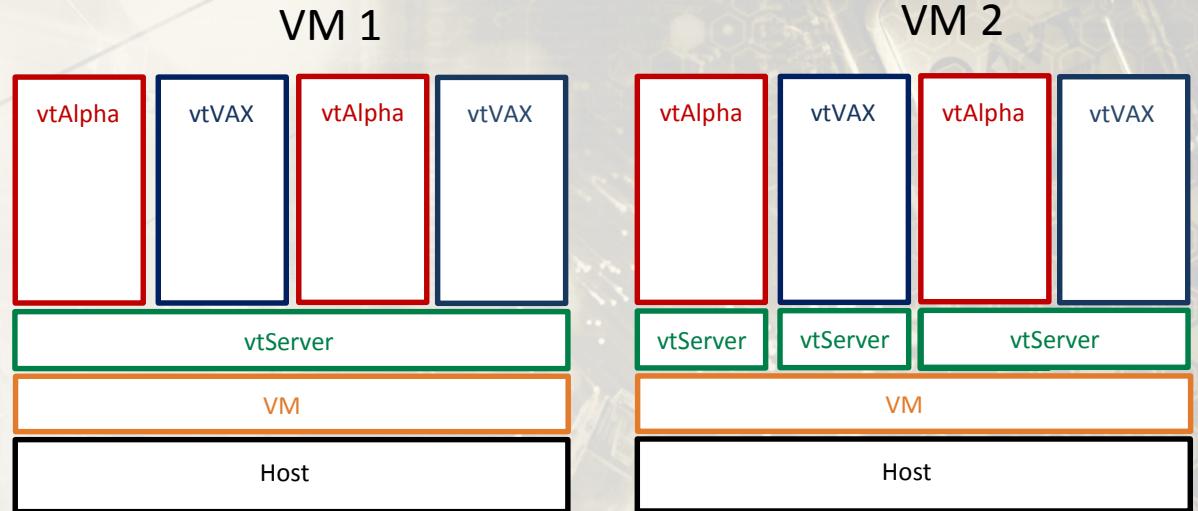
Hot Stand-by



Live Host Migration



Virtualization options



Back-up Strategy

- Maintain current procedures
- Logical Tapes / Disks
- Off-Host storage
 - SAN
 - iSCSI
 - NFS
- vtServer Backup



Tape Utility

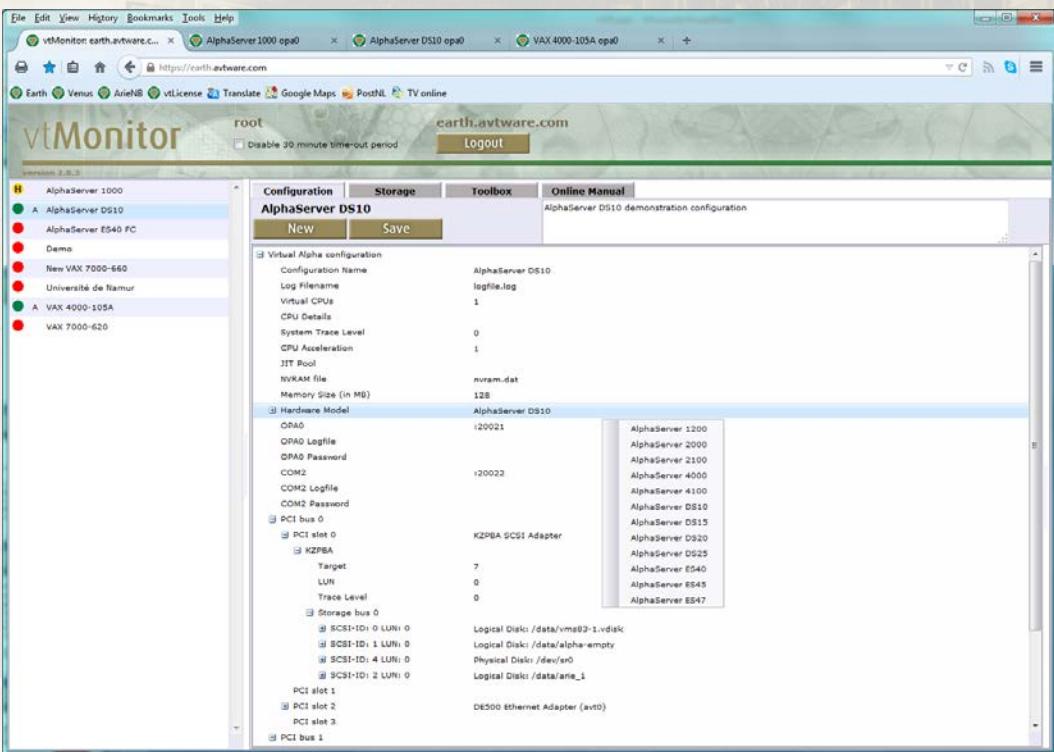
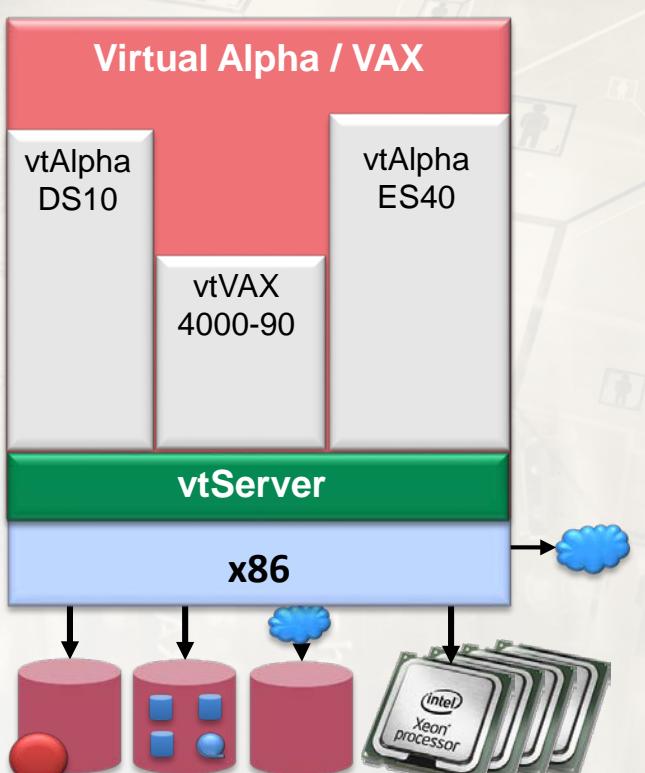
- OpenVMS utility (product install)
- Load / Unload
- Dynamic file names
- Backup generations
- Logical Tape



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Management Tool





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