Build Your Virtual Machines

Glenn Weadock
MCT, MCSE, MCSA, MCITP, A+

gweadock@i-sw.com   www.i-sw.com

Build Virtual Machines

Topics in This Module:

Basics of VM Creation

Create VMs

Basics of VM Creation

Generations of VMs

Generation 1 VMs (Windows XP+)
- IDE, SCSI (not boot)
- BIOS
- COM ports, virtual floppy

Generation 2 VMs (Windows 8+ x64)
- SCSI (boot OK), no IDE
- UEFI, Secure Boot

Virtual Disk Flavors

Fixed (VHD or VHDX)

- Allocates all space up front
- Speed benefit (less fragmentation)

Dynamic (VHDX preferred)

- Starts small & expands as required

Differencing (AVHDX)

- Links to parent of same type

Virtual Disk Formats

VHD
- 2TB max
- Supports older operating systems

VHDX (default)
- 64TB max
- Windows 8+
- More robust

VHDS
- Shared storage in clusters; server format

Add a VHDX if you need another volume, *e.g.* when working with Storage Spaces.
Click the controller in the VM settings and "Add."

Checkpoints

Formerly known as "snapshots"

Point-in-time capture of a VM

Revert by right-clicking the VM

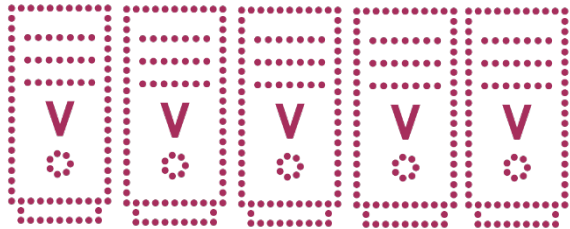**Stored by default in same location as config files**

- **C:\ProgramData\Microsoft\Windows\Hyper-V**

Bad idea for domain controllers!

Create VMs

Suggestions for Building Your VMs

Choose dynamically expanding hard drive, VHDX, on SSD if possible

Configure guests for multiprocessor support if available

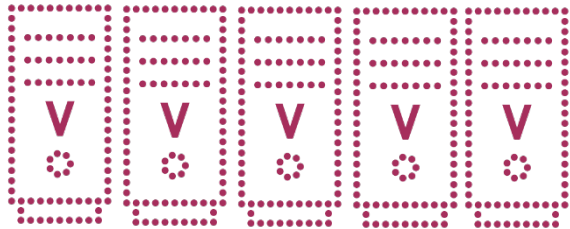**1GB RAM minimum per guest, 2GB preferable**

- Dynamic RAM is fine

Windows Server 2016 (3X)

Windows 10 (2X)

Virtual Machines

GM-DC1 (Server 2016)

- Domain controller, file server, DNS
- AD Certificate Services (optional, *e.g.* for VPN certificates)

GM-WS1, GM-WS2 (Windows 10)

- Employee workstations

GM-WSUS (Server 2016)

- WSUS server

GM-RAS1 (Server 2016)

- Router, remote access server

GM-RAS1 only needs to be online when you need Internet access (*e.g.* when downloading tools).

Demo

Creating a Virtual Machine

Now You're Ready to
Add Roles and Configure Networking