

VMware Home Labs: A Definitive Guide 2020 Update



CEDAR
PARK



VMUG
VMWARE USER GROUP



Matt Mancini

Staff Technical Account Manager -- Arizona

matt@vmexplorer.com | [@vmexplorer](https://twitter.com/vmexplorer) | vmexplorer.com

[vExpert 2009-2020](#) | [vSAN vExpert 2016-2020](#)

Purpose of the Home Labs: A Definitive Guide

Over the years common themes and questions came up around Home Labs...

- *Where do I start?*
- *Why should I build a Home Lab?*
- *What are some of your experiences with Home Labs?*
- *Do you have any examples of Home Labs?*
- *What should I consider when building a Home Lab?*



If you think about it, Home Labs are like porridge...



The Goldilocks Principal



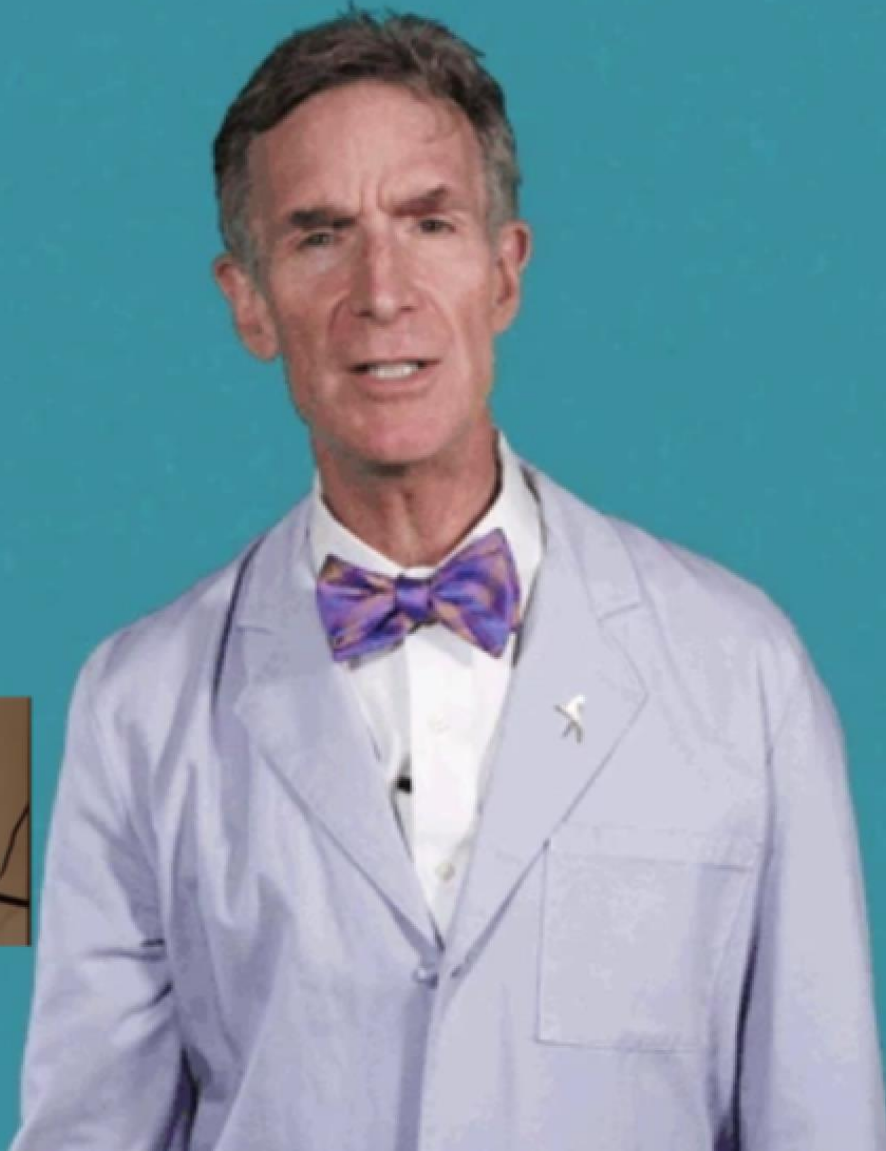
Agenda

- **Consider the following about Home Labs**
 - What is a home lab?
 - Why build a home lab?
- **Planning your Home Lab**
 - Where do I start?
 - Benefits and Considerations
 - Software Planning
- **Building up your Home Lab**
 - The Fantastic 4
- **Recommendations**
- **My Current Home Lab**
- **Helpful Links**



Stay Tuned on how to use your Home Lab as a Force for Good!

Consider
the
following



What is Home Lab?

- There are many different types for Home Labs, but for this presentation: a home lab is any type of non-production VMware environment meant for personal or development use.
- Depending on your expected outcomes and budget it may contain different, outdated, and dislike hardware (or it may not) OR it could contain connections to cloud resources.
- VMware Home Labs usually run the following software:
 - VMware Workstation (Nested Environment)
 - VMware vSphere Environment (vCenter Server, ESXi, vSAN, etc.)

Why build Home lab?



Hardware

Software

Certification Prep

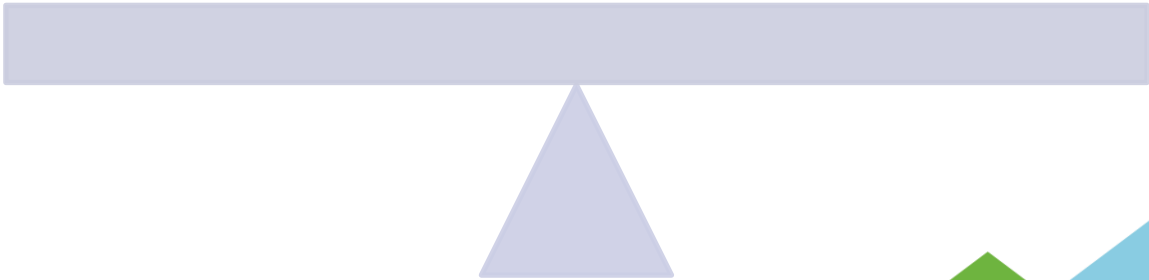
New Products

Confirm a fix

Do something different

Emerging Tech

Test a Theory

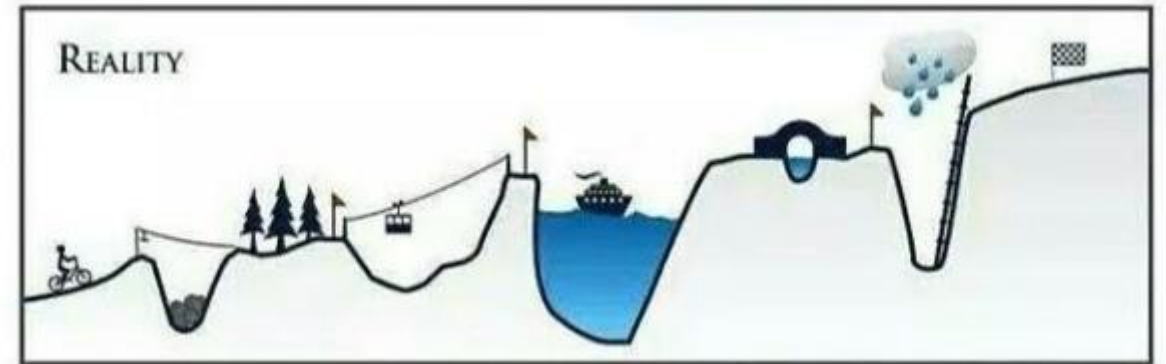
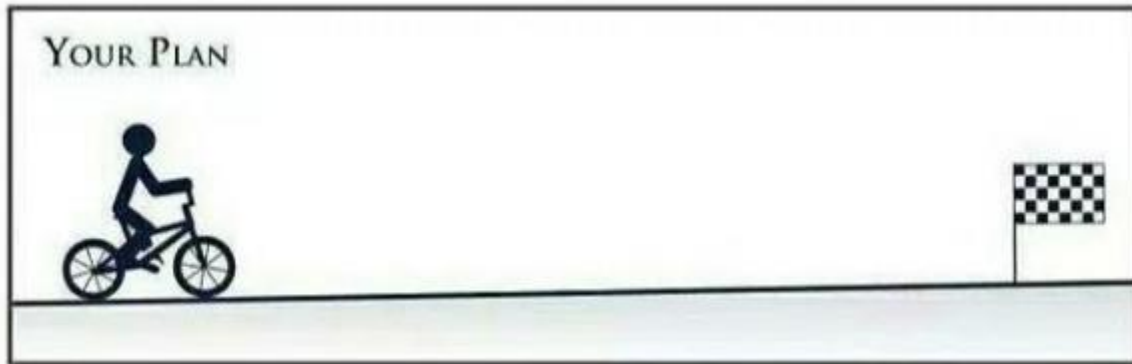


Planning your Home Lab



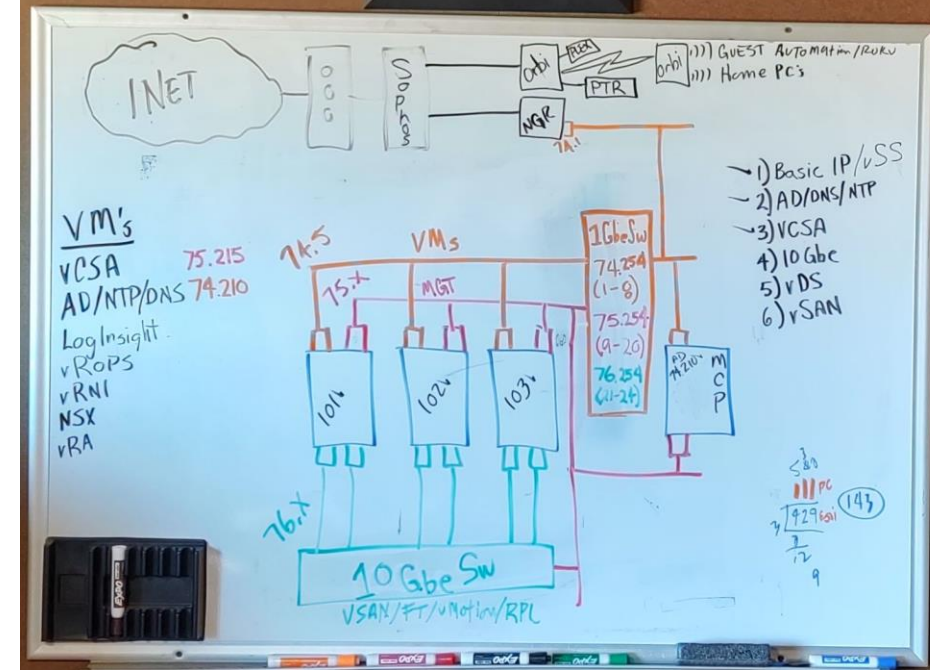
Where do I start?

- Have a plan and run your Home Lab same as a production environment
 - Hardware, Networking, Power, Cooling, Installations, Documentation
- Start out small and build it up, but have a plan



Where do I start? (Resist buying first)

- **Think about the requirements and outcomes?**
 - What do you want to do with your home lab?
 - Will it involve your personal home network?
 - Do you like the hardware or software side of Home labs, maybe both?
 - Ask questions, talk with others, gather information
- **Form your ideas**
 - Whiteboard or document your ideas / requirements
- **Research the software requirements (See Table)**
 - What are the software requirements | Do you need training or hands on experience?
- **Review the Home Lab Considerations Table (See Table)**
- **Research what hardware you may need**
- **Lastly, (in my opinion) if you can explain your home lab simply, your ready...**



Research the software requirements (2020 Update)

Product	CPU	RAM	Disk	LINK
VMware vCenter Server v6.x Standard (VCSA)	vCPU 2 TNY / 4 SML 8 MED / 16 LGR	10GB TNY / 16GB SML 24GB MED / 32GB LRG	300GB to 2.1TB	Recommended Link
ESXi Hardware Requirements	2 pCORES MIN	4 GB MIN + 8GB for VM's	Varies 1GB-15GB	Recommended Link
VMware NSX for vSphere	NSX Manager 4 (8 for LRG) NSX Controller 4 NSX Edge: Compact 1, LRG 2, 4xLRG 4, XL 6 Guest Introspection 2	NSX Manager 16GB NSX Controller 4GB NSX Edge: Compact 512MB, LRG 1GB, 4xLRG 2GB, XL 8GB Guest Introspection 2GB	NSX Manager 60GB NSX Controller 28GB NSX Edge: Compact, Large, Quad Large: 1 disk 584MB + 1 disk 512MB XLarge: 1 disk 584MB + 1 disk 2GB + 1 disk 256MB Guest Introspection 6.26GB	Recommended Link NSX-T Link
VMware vRealize Network Insight	8-20 vCPU	32-64GB RAM	1TB-2TB	Recommended Link
VMware vSAN™	ESXi Host standard 4 pCORES Recommended	32GB MIN RAM Link	All FLASH 2 x SSD Hybrid 1 SSD X 1 HDD	Recommended Link
VMware Site Recovery Manager	4 pCORES	4GB MIN	5GB MIN	Recommended Link
VMware vRealize Log Insight™	4 vCPU	8GB	530GB	Recommended Link
VMware vRealize Operations™	2-24 vCPU	8GB-128GB	Use Worksheet in Recommended Link	Recommended Link
VMware vRealize Automation	8 vCPU	32GB	320GB	Recommended Link
VMware vRealize Orchestrator	4 vCPU	12GB	100GB	Recommended Link
VMware vCloud Suite® Standard	NA	NA	NA	Recommended Link
VMware Horizon® Advanced Edition	NA	NA	NA	Recommended Link

Review the Home Lab Considerations (2020 Update)

Design Considerations	Description
Initial Cost	How much does the Home lab solution cost to build out
Noise	When the home lab is running how much noise will it produce and are the noise levels appropriate for your use case.
Heat / Power Consumption	Does the home lab produce too much heat for the intended location
Monthly Operational Cost	Based on cost for electricity in your area, how much is it going to cost to run?
Footprint and Mobility	How much space does the solution take up and how mobile is the solution?
Flexibility	Based on the type of product you choose, how flexible is the solution when hardware or other changes are needed to expand.
Bleeding Edge VMware products	How does the solution align to emerging products without major overhaul
VMware HCL Support	How does the on-prem solution align to the Hardware compatibility guides
Refresh Cost (Reusability)	Financially, what would it take to refresh, replace, or update the hardware solution Consider how adaptable is the solution to changing hardware and software demands.
Speed to Use	How quick can the hardware solution be deployed and is useful



Example of Planning out a Home lab

- Most recently I updated my home lab from Generation 4 to Generation 5.
- I document all my home lab Generations on my blog and how I migrate them.
- For Generation 5 I created 6 videos around my findings and outcomes
- Here are the steps I review when updating or rebuilding my Home Lab.
- **First:** What are my initial use cases and goals
- **Second:** Evaluate Software, Hardware, and VM requirements
- **Third:** Review / Document the Home Lab Design Considerations Table
- **Fourth:** Choose the hardware
- **Fifth:** Finalize my orders and start the assembly process
- **Finally,** learn from my mistakes 😊
- Pro-Tip: use Google Sheets



Building up your Home Lab



The Fantastic 4 – around Home Labs





ESXi Hosts

Common types of ESXi - Building blocks



Laptop



Workstation and DIY PCs



NUC and Micro-Servers



Enterprise Server Class

Classification of Building blocks for comparison



1. Nested Workstation

- Run VMware Workstation or VMware Fusion for Windows, MAC, or Linux
- PC, Laptop, or Workstation class computer
- One CPU, lots of RAM, multiple disk drive slots, and NICs.

2. Mobile / Compact Cluster

- Run ESXi
- 2-3 NUCs, MAC MINI, or Micro-servers
- One CPU, lots of RAM, 1-2 Disk slots, NVMe slots, Thunderbolt, external power supply

3. Business Workstation / White box Cluster

- Run ESXi
- 2-3 or more PC or Workstation class computers
- 1-2 CPUs, lots of RAM, multiple disk drive slots, lots of room for expansion

4. Server Class Cluster

- Run ESXi
- Consists of 3 or more server class computers,
- 1-4 CPUs, lots of RAM, multiple disk drive slots, lots of room for expansion

How do these Building blocks compare?

Design Considerations	Nested Workstation	Mobile Compact Cluster	Business Workstation Cluster	White box Cluster	Server Class Cluster
Initial Cost	\$1,200	\$3,000	\$3,000	\$3,000	Higher
Noise	Low	Low	Can be Low	Can be Low	Loud
Heat / Power Consumption	Low (~125 Watts)	Med (~200 Watts)	Med-High (300-600 Watts)	Med-High (300-600 Watts)	High (~800-1K Watts)
Monthly Operational Cost	Low \$11/mo.	Med \$17/mo.	Med \$28/mo.	Med \$28/mo.	High \$70/mo.
Footprint and Mobility	Depends (Laptop, NUC, PC)	Very Small Very Mobile	Large Footprint Not Very Mobile	Large Footprint Not Very Mobile	Large Footprint Not Very Mobile
Flexibility	Somewhat	3 x NUC Small Limited Flexibility	3 x Workstations Flexible	3 x Desktops Very Flexible	3 x 1U or 2U Somewhat Flexible
Bleeding Edge VMware products	Yes (Limited by Nesting)	Yes (Limited by Flexibility)	Yes (Very Flexible)	Yes (Very Flexible)	Yes (Very Flexible)
VMware HCL Support	No	No / Limited	No / Limited	No / Limited	Possible
Refresh Cost (Reusability)	Low	Buy New / Some Adds	Buy New / Some Adds	Change out components	Buy New / Some Adds
Speed to Use	Quick	NUCs - Quick Micro Servers – Quick	Quick	Not as Quick	Quick

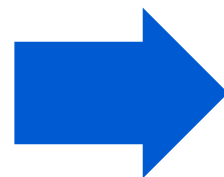
ESXi Hosts – Building Blocks example...

From PC > Nested Workstation > White box Cluster

- One strategy around building up your home lab is to start with what you have and build up from there.
- As you evolve your home lab think about choosing items that you repurpose
- Example I had the same case for 17 years.



2003



2020

ESXi Host Trends for 2020

- CPU's
 - 4 Core CPU's are struggling to keep up with software demands
 - Hyperthreading is a dying technology and should not be considered cores
 - Used E5 Xeon (v2-v4) CPU's have fallen in price (\$20-\$80)
- System Boards
 - X79 / X99 System boards with single or dual Socket 2011 have fallen in price
 - New or Used System Boards (\$85-\$140) | Lookout for Narrow 2011 & Special Power Requirements
- RAM is in high demand
 - Shoot for 128GB systems or better
 - Used DDR3/DDR4 ECC prices dropped (128GB, \$100-\$200)
- HBAs
 - Have been hearing about Enterprise Servers not accepting all HBA's
- Laptops
 - Modern performance-based Laptops are starting to be a good approach for Nested Home labs. Ensure lots of Cores, RAM, SSD, and/or NVMe disks



Networking

What are the common types of networking?



L3 Switch, VLAN, Managed, PoE
1 Gbe and/or 10 Gbe SFP+ / DAC Cables



Ethernet Cross over cable



InfiniBand Switch 10Gbs – 100Gbs



InfiniBand
Cable

Networking Trends for 2020

- Low Latency Networks (RDMA) are starting to trend for vSAN (Do your research)
- 10Gbe per port price is stable but starting to fall a bit, look for switches that have 10Gbe SFP+ and use DAC cables
- If you are looking for “cheap” but new 10Gbe switch, consider MikroTik
 - Fair Warning – their CLI can be hard to learn, its not intuitive or Cisco like in anyway.

CRS309-1G-8S+IN

Desktop switch with one Gigabit Ethernet port and eight SFP+ 10Gbps ports



CRS305-1G-4S+IN

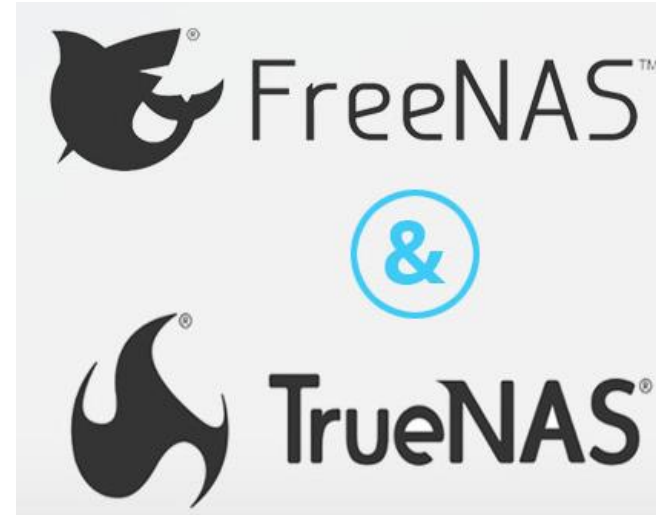
Five-port desktop switch with one Gigabit Ethernet port and four SFP+ 10Gbps ports





Storage

What are the common types of shared storage?

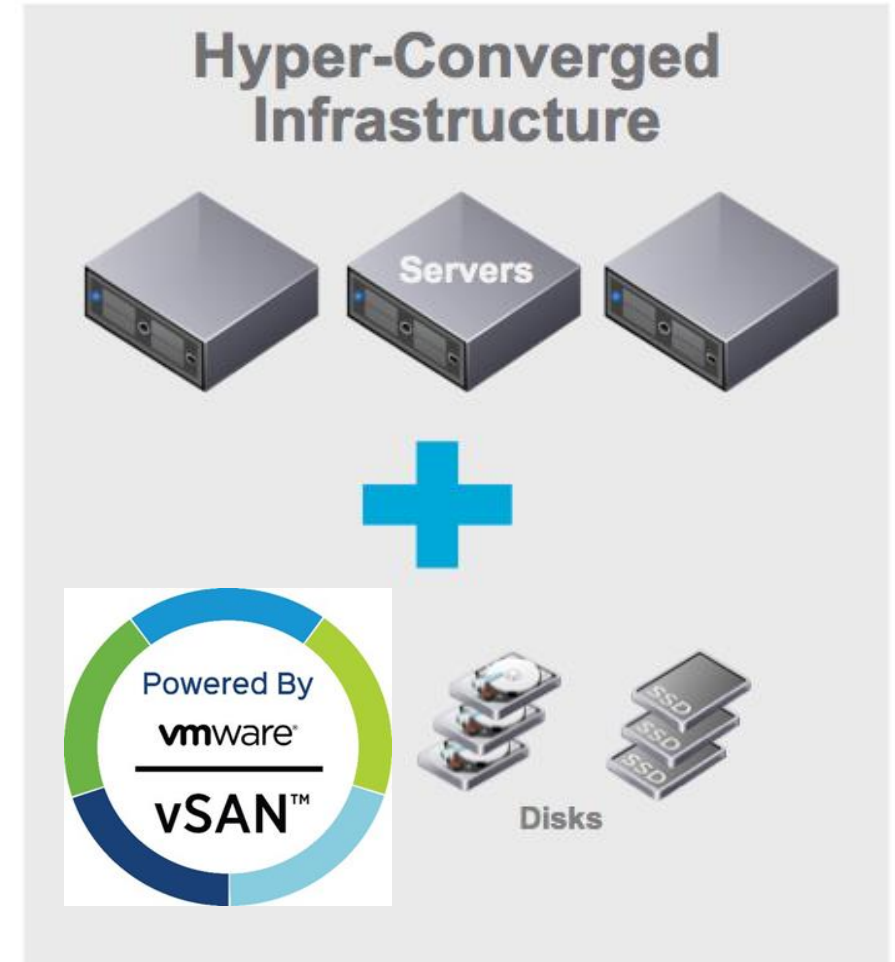
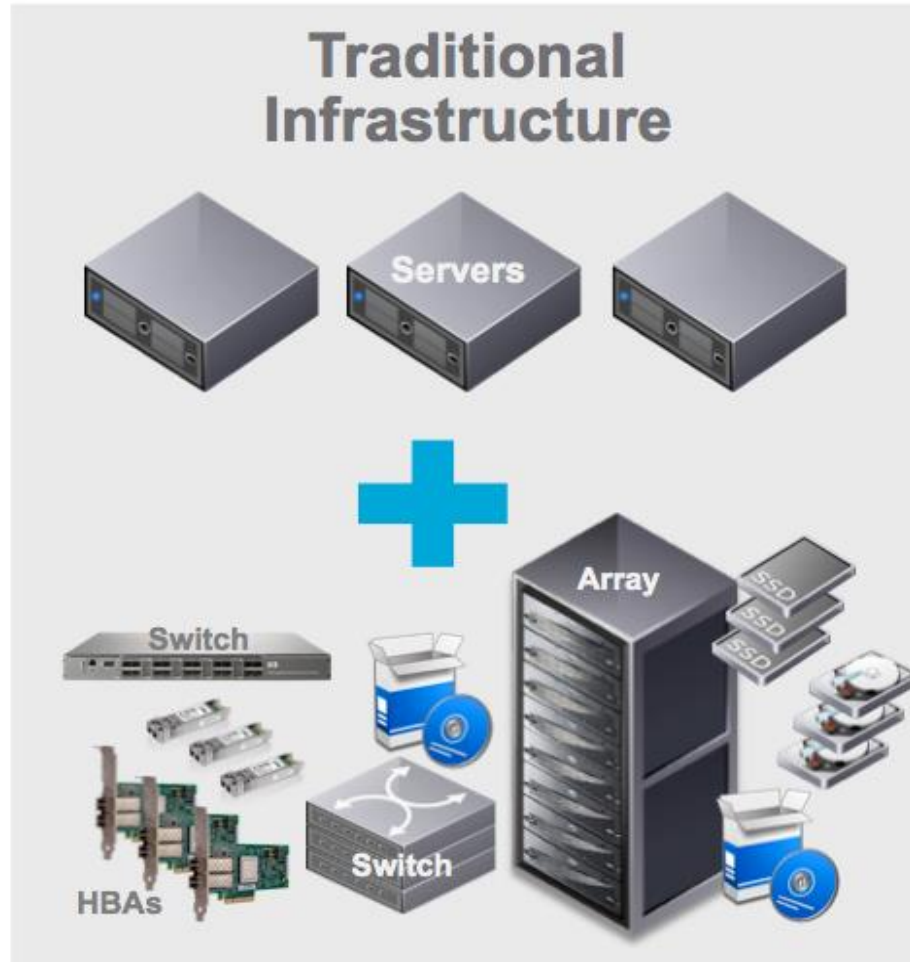


Storage Arrays
Personal or SMB



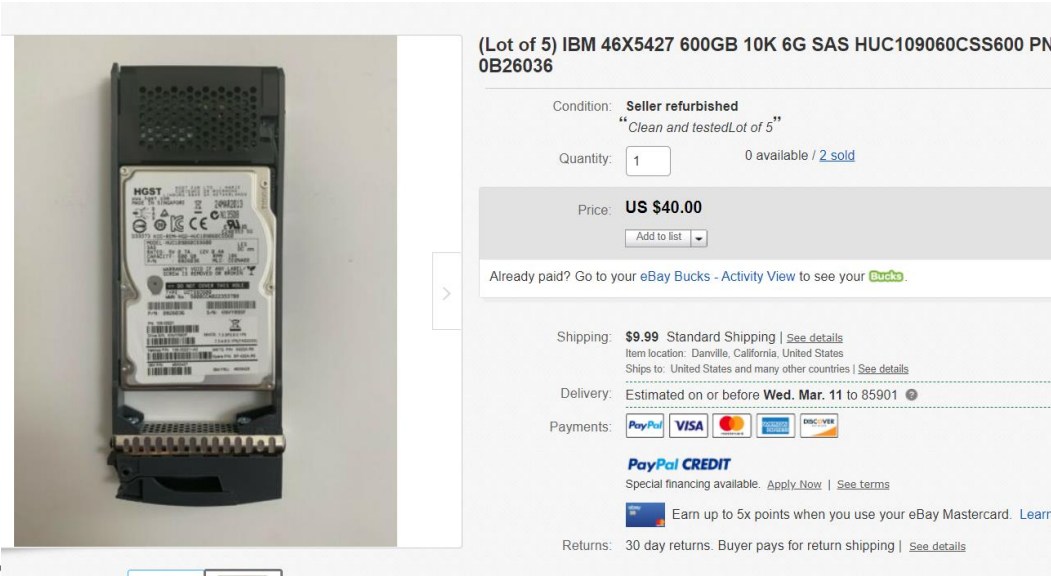
HCI
VMware vSAN

Consider the following around Storage....



Trends in Storage for 2020

- Used Enterprise SAS HDD, Flash, and NVMe are all dropping in price
- The used market is flooded with cheap Enterprise SAS drives from Storage Arrays
- Look out for:
 - NetApp Drives can come with 520b Sector size vs. a 512b Sector size
 - These disks can be labeled as IBM, Hitachi, Seagate, etc. Best to check with the seller if the drive you are interested in was used in a NetApp Array.
 - Some have been successful using these disks, but my recommendations is to avoid as most SAS Controllers will have issues



(Lot of 5) IBM 46X5427 600GB 10K 6G SAS HUC109060CSS600 PN 0B26036

Condition: **Seller refurbished**
"Clean and tested Lot of 5"


Quantity: 0 available / 2 sold

Price: **US \$40.00**


Already paid? Go to your eBay Bucks - Activity View to see your **Bucks**.

Shipping: **\$9.99** Standard Shipping | [See details](#)
Item location: Danville, California, United States
Ships to: United States and many other countries | [See details](#)

Delivery: Estimated on or before **Wed. Mar. 11** to 85901

Payments: 

PayPal CREDIT
Special financing available. [Apply Now](#) | [See terms](#)

 Earn up to 5x points when you use your eBay Mastercard. [Learn more](#)

Returns: 30 day returns. Buyer pays for return shipping | [See details](#)





Consider this for Licensing...



VM's

Visual Studio
Linux



Networking

Switches might
need licensed to
enable features
(InfiniBand this is a must)



Storage

Storage Arrays and even
HCI might need license to
enable features

What about VMware Licensing?

- Your company may have keys. Check your licensing agreements
- Work with your VMware Account team / TAM, they may have options
- If you are a VMware Partner, consider NFR Keys (request additional)



Consider VMUG Advantage \$200/yr

Exclusive Licenses

VMUG Advantage provides members exclusive development opportunities with 365-day access to VMware solutions, discounted training, certification opportunities and more.

[EVALEXPERIENCE FAQs](#)

Data Center & Cloud Infrastructure

- VMware vCenter Server Standard (includes vRealize Suite 2019 Enterprise and vSphere Enterprise Plus)
- vSphere® vCloud Suite Standard
- VMware Cloud Foundation

Networking & Security

- VMware NSX Enterprise Edition (6 CPU licenses)
- VMware vRealize Network Insight

Storage and Availability

- VMware vSAN™
- VMware Site Recovery Manager

Cloud Management

- VMware vRealize Orchestrator
- VMware vCloud Suite® Standard

Desktop & Application Virtualization

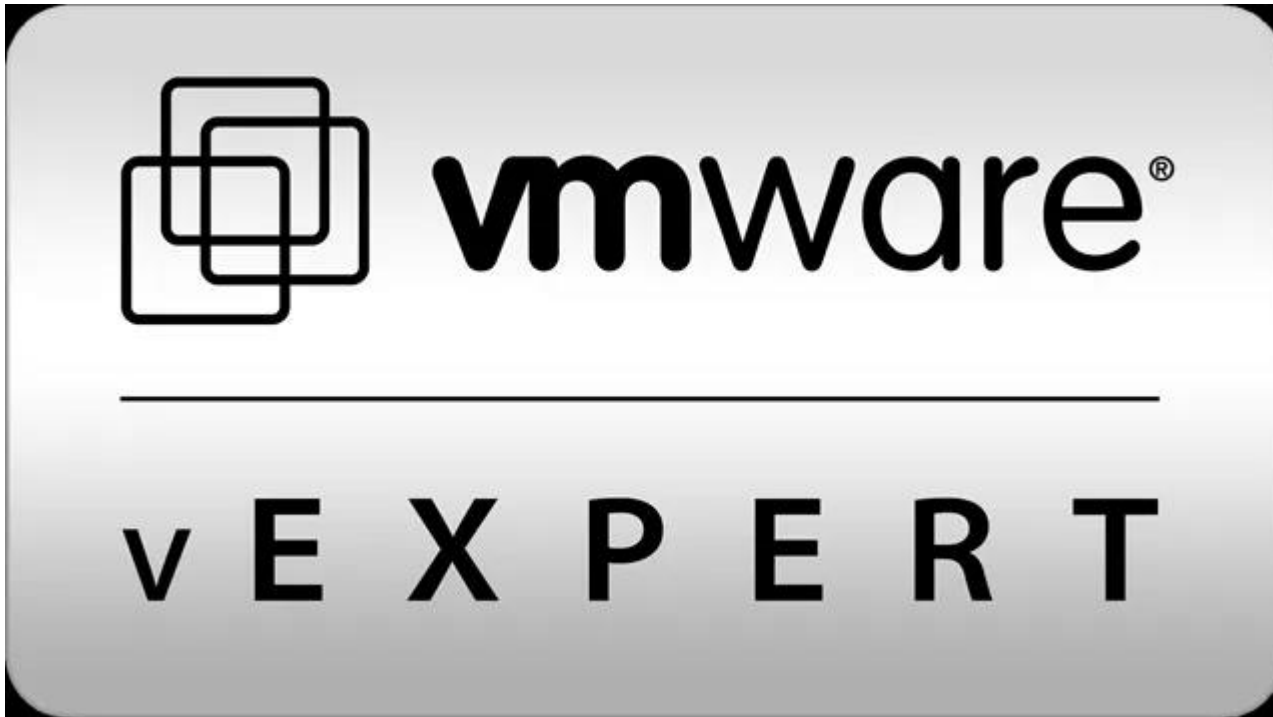
- VMware Horizon® Advanced Edition
- VMware vRealize Operations for Horizon®
- ThinApp

Personal Desktop

- VMware Fusion Pro
- VMware Workstation Pro

Become a VMware vExpert

- License keys are one of the program perks
- Need help reach out to a follow vExpert



Name
2020 - Fusion 11
2020 - Horizon Enterprise 7
2020 - Integrated OpenStack 6.0 - Data Center
2020 - SRM 8 ENT
2020 - vCenter Server 6 Essentials
2020 - vCenter Server 6 Standard
2020 - VMware WorkStation 15 Pro
2020 - vRealize Code Stream 2
2020 - vRealize Log Insight 4
2020 - vRealize Network Insight Enterprise
2020 - vRealize Suite 2019 Enterprise Edition
2020 - vSAN 6 Enterprise
2020 - vSphere 6 Enterprise Plus

Recommendations

For starting your Home Lab

Quick note: Recommendations below are just that... recommendations
Your system, your design, and your plan may vary

Start with VMware Workstation

- Recommendation:
 - Draw up a plan of what you want to accomplish
 - Install Workstation on to your laptop or PC and get familiar with setting up a nested environment. Most VMware products can be installed
 - This is not time wasted as the VM's can be moved to ESXi hosts
 - Think about “building blocks”. What next for your home lab?
- Workstation Hardware:
 - PC, MAC, Laptop, NUC, workstation class PC (Check the VMware Workstation requirements)
 - Lots of RAM (32GB or better)
 - 1Gbe pNIC or two
 - 6 Core or better CPU
 - FAST disk access – SSD, M.2, NVMe
 - Multiple smaller HDDs (Distribute your VMs)
- PROS: Cost effective way to start your Home Lab, carry over into your next generation Home lab
- CONS: No support for VLAN or external routing, at some point performance might be a factor

Building an ESXi Home Lab

- Recommendation:
 - Enhance or draw up a plan, have good idea of what you want to do with your Home Lab and how it might grow. Think how am I going to expand my home lab?
 - Go with VMUG Advantage / Visual Studio for your Licenses.
 - Use what you have but use as many common “building blocks” (Mobos, pNICs, Disk, RAM, CPU)
 - Don’t forget about Networking, DNS, TCP/IP, DHCP
 - Use your VMware Workstation PC to house some services
- Hardware:
 - 2-3 x ESXi Hosts, Layer3 Switch + 10Gbe SPF+ ports, vSAN or OpenFiler/FreeNAS
 - ESXi Hosts
 - Case: ATX/EATX case, lots of drive bays, easy to working on, fits cheap commodity parts
 - Mobos: Look for 64GB or better, support for ECC/Non-ECC RAM, CPU Support, 8x or better PCIe ports , Use the 16x PCIe < ensure you can, Headless (look for AST2400), NVMe/M.2 support
 - SSD: SAS Based better, Standard SSD okay
 - HDD: Have at least one host with a large HDD, comes in handy for moving VM’s around
 - Boot to USB or flash SD
 - Power supply: Look for efficient as possible
- PROS: Longevity, Cost Control, max flexibility, Low Noise / Heat
- CONS: Overall Size can be a bit bulky for some designs

My Home Lab for 2020

- Dual E5 Xeons (2640v2)
- 128GB RAM DDR3
- vSAN Hybrid
- 10gbe Network (MircoTik)
- vSphere
 - 6.7U3 (Jinsha x79)
 - 7.0 (SM X9DRD)
- Workstation 15 (i7-8700)
- Plans to install the entire stack

What's next?

- Kubernetes
- Home Automation

vmware®



Check out vmexplorer.com Blog, YouTube, and Twitter



ABOUT

BLOG

BLOG SERIES

HOME LABS: A DEFINITIVE GUIDE

BLOG SERIES

Welcome to my Blog Series page. This page will enable readers to easily find my blog posts around specific topics – Enjoy!

Home Lab Gen V (01/2020 – Current)

- [Home Lab GEN V: VIDEO The Quest for More Cores! – First Look](#)
- [Home Lab GEN V: BLOG The Quest for More Cores! Design Considerations](#)
- [Home Lab GEN V Build: Part 1 – VIDEO Build Components Overview](#)
- [Home Lab GEN V Build: Part 2 – VIDEO Case Selection](#)
- [Home Lab Gen V Build: Part 3 – VIDEO Motherboard Overview](#)
- [Home Lab Gen V Build: Part 4 – VIDEO First Install Steps](#)
- [Home Lab Gen V Build: Part 5 – VIDEO Motherboard Install](#)
- [Home Lab Gen V Build: Part 6 – VIDEO Final Steps](#)

 Follow vmexplorer 34

Social Media



Links

- [HOL vs Home Lab](#)
- <https://vexpert.vmware.com/>
- <https://visualstudio.microsoft.com/>
- <https://www.vmug.com/home>
- <https://mikrotik.com/>
- <https://www.virtuallyghetto.com/home-lab>
- <https://www.freenas.org/>
- <https://www.vmware.com/my-vmware-partners.html>
- InfiniBand Links [\(1\)](#) and [\(2\)](#)
- <https://configmax.vmware.com/home>
- <https://www.vmware.com/resources/compatibility/search.php>

Porridge is only as good as you make it.





SPECIAL ANNOUNCEMENT

What is folding at home?

- Folding refers to the way human protein folds in the cells that make up your body. We rely on the proteins to keep us healthy and they assemble themselves by folding. But when they misfold, there can be serious consequences to a person's health.
- A distributed computing project must not only run calculations on millions of PCs, but such projects must produce results, especially in the form of peer-reviewed publications, public lectures, and other ways that disseminate the results from FAH to the greater scientific community. In the sidebar, you will find links to our progress in different areas.
- More info Here:
 - <https://foldingathome.org/diseases/>



Cancer ▾

Breast Cancer

p53

Epigenetics

Kidney Cancer

Infectious diseases ▾

Dengue Fever

Chagas Disease (African
Trypanosomiasis)

Zika Virus

Hepatitis C

Ebola Virus

Neurological diseases ▾

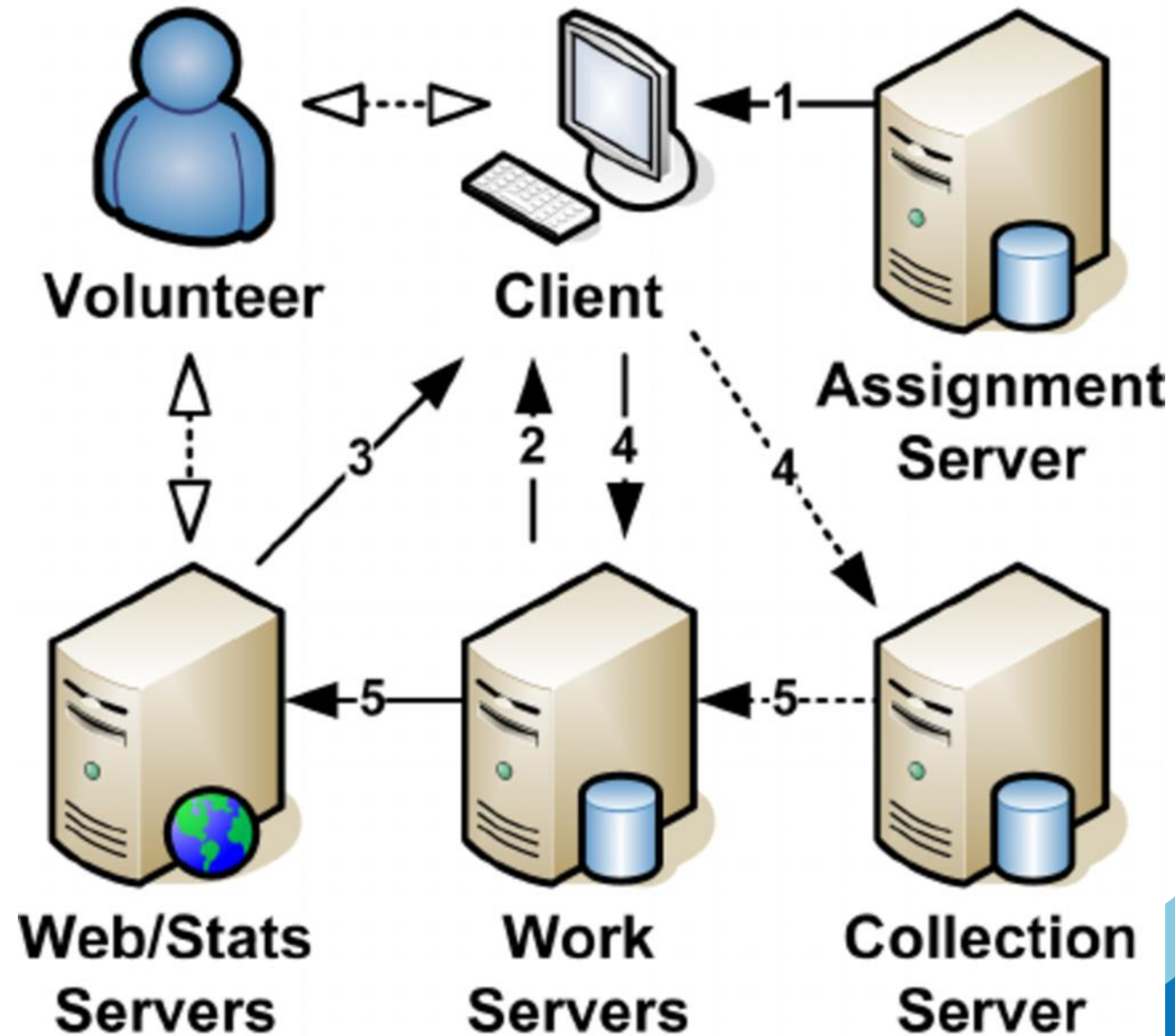
Alzheimer's Disease

Huntington's Disease

Parkinson's Disease

What is the high-level process

- Install Folding@Home on to a client
- Setup the client
- Receive a work unit
- Client Processes the data
- Sends the data back to be analyzed
- Client is awarded points / Status updated
- And, over and over...





William Lam
@lamw



Where this all started...

Validation testing of the Folding @ Home PhotonOS Appliance is starting :)

Pinned Tweet



Amanda Blevins
@AmandaBlev

It is with much joy that @VMware is announcing our VMware Appliance for @foldingathome. You can access the Fling here: flings.vmware.com/vmware-appliance.

Please read my blog to learn more about the process: octo.vmware.com/vmware-appliance.

Join #TeamVMware!
#Forceforgood #vCommunity



A Force for Good: VMware Appliance for Folding@Home
At VMware, our EPIC2 values are a core component of who we are. We manifest our values in all aspects of our work and...
octo.vmware.com



Amanda Blevins
@AmandaBlev

#Foldingathome #TeamVMware rank 419 continues to grow! We are just shy of 700 team members.

We average 52M points/hr and rank 17 in average points/hr.

Let's break into the 300s by tomorrow!

Join us #VMware ID 52737 - download the @vmwflings or by native install! #vCommunity

7:27 AM · Mar 25, 2020 · Twitter Web App

F@H Mode

F@H Mode

medium

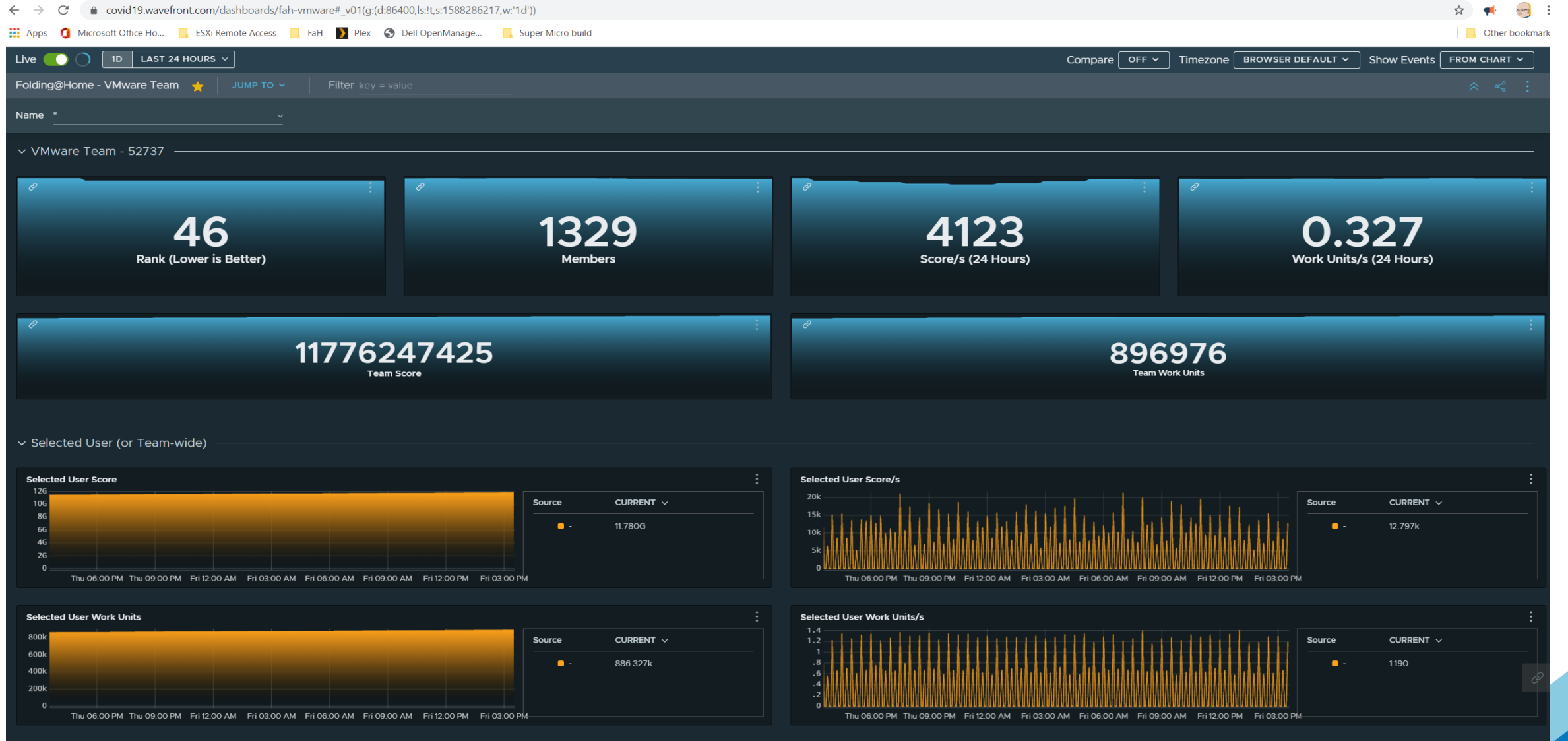
GPU

Enable GPU



CAN

Team VMware as of 05/01



PC Steps...

Download and install the Agent and Join Team ID 52737 (steps below)

Welcome to Folding@home. Please read this.

The program "FAHClient" is actually idling in the background on your computer right now. You can start folding as "Anonymous" or set up an identity and earn points.

When you quit this browser, FAHClient will continue to run. For easy access in the future we recommend you [bookmark this page](#) by pressing Ctrl-D now.

The default settings assume you are using a laptop and set the power usage to be lower than you might want for other computers. You can always make adjustments.

Fold as Anonymous

Set up an identity

Start Folding

Change Identity

Name:

Team Number:

Passkey:

If you choose a name, you can earn points for completing work units (WU).
Note: All fields are optional.

If you have joined a team you should enter your team number above. Then the points you earn to be added to your team's total.
For more information about teams and points see the [Stats Page](#).

Passkeys are used to add an extra level of security for those competing for points. Getting a passkey will also allow you to earn bonus points for completing work early.
[Get a Passkey.](#)
For more information see [Passkey FAQ.](#)

Cancel **Save**

WEB CONTROL Share: Learn News Help

I'm folding as: **vmexplorer**
Team **52737**
[Change Identity](#)

I support research fighting
Any disease

Points earned
0 (See stats)
0 go to Team **VMware's** total of 12,288,785.

CPU:10
0.00%

GPU:0:GP107GLM [QUADRO P1000 MOBILE]
0.00%

Ready
Ready.

Points per day: --

My computer has unknown time to complete this work unit.

Power **When**

Light Medium Full

While I'm working
 Only when idle

Stop Folding

Quitting the browser will not stop folding. Folding happens in a background process on your computer through the program FAHClient even when Web Control is closed.

FAHControl - Folding@home Client Advanced Control

Configure Preferences Exit

Clients

Name	Status	Address
local	Online	127.0.0.1

Client: local Online Running

Status System Info Log

Folding Power: Light Medium Full

Identity
Name: **vmexplorer** Team: **52737**

Folding Slots

ID	Status	Description
00	Ready	cpu:10
01	Running	gpu:0:GP107GLM

Work Queue

ID	Status	Progress	ETA
00	Download	0.00%	7
01	Running	3.18%	7

Selected Work Unit

PRCG 0 (0, 0, 0)
Folding Slot ID 00
Work Queue ID 00
Status Download
Progress 0.00%

ETA Unknown
Base Credit Unknown
Estimated Credit Unknown
Estimated PPD Unknown
Estimated TPF Unknown
Project 0
FahCore unknown
Waiting On WS Assignment
Attempts 7
Next Attempt 10 mins 19 secs
Assigned Unknown
Timeout Unknown
Expiration Unknown
Work Server 0.0.0.0
Collection Server 0.0.0.0

Total Estimated Points Per Day: 27360

UTC: 2020-03-17T19:12:53Z

Project 11754

FAHControl - Folding@home Client Advanced Control

Configure Preferences Exit

Client: local Online Running

Name	Status	Address
local	Online	127.0.0.1

Folding Power: Light Medium

Identity: Name [vmexplorer](#) Team [52737](#)

Folding Slots

ID	Status	Description
00	Ready	cpu:10
01	Running	gpu:0:GP107GLM [Quadro P1000 Mobile]

Work Queue

ID	Status	Progress	ETA	Credit	PRCG
00	Download	0.00%	Unknown	Unknown	0 (0, 0, 0)
01	Running	12.58%	7 hours 20 mins	9405	11754 (0, 2496, 6)

Selected Work Unit

PRCG 11754 (0, 2496, 6)
Folding Slot ID 01
Work Queue ID 01
Status **Running**
Progress 12.58
ETA 7 hours 20 mins
Base Credit 9405
Estimated Credit 9405
Estimated PPD 26907
Estimated TPF 5 mins 02 secs
Project [11754](#)
FahCore 0x22
Waiting On Attempts 0

Folding@home update on SARS- x +

← → ↻ foldingathome.org/2020/03/10/covid19-update/

Apps ★ Bookmarks Microsoft Office Ho... Mail - Mancini, Mat... ESXi Remote Access Plex Dell OpenManage...

Archives

Select Month ▾

Categories

FOLDING@HOME UPDATE ON SARS-COV-2 (10 MAR 2020)

March 10, 2020
by [John Chodera](#)

11745: Coronavirus SARS-CoV (SARS causing virus) receptor binding domain mutated to the SARS-CoV-2 (COVID-19 causing virus) trapped by a SARS-CoV S230 antibody.
atoms: 110370, credit: 7685

Consider this...

- You don't need a Home Lab to fold
- You can use your PC or laptop to help out
- Disable Sleep and enable High Performance Power
- Clients with GPU (video card) will process faster, use less power, and will gain more points
- Client with CPU will work but slower, use more power, and will not gain as many points
- A client can complete work units on the GPU and CPU at the same time
- VMware has a solution for ESXi, via an OVA, but unless you have a \$2K nVidia Grid card its all CPU based

Common types of Folding@Home Clients



Laptop



NUC



Workstation



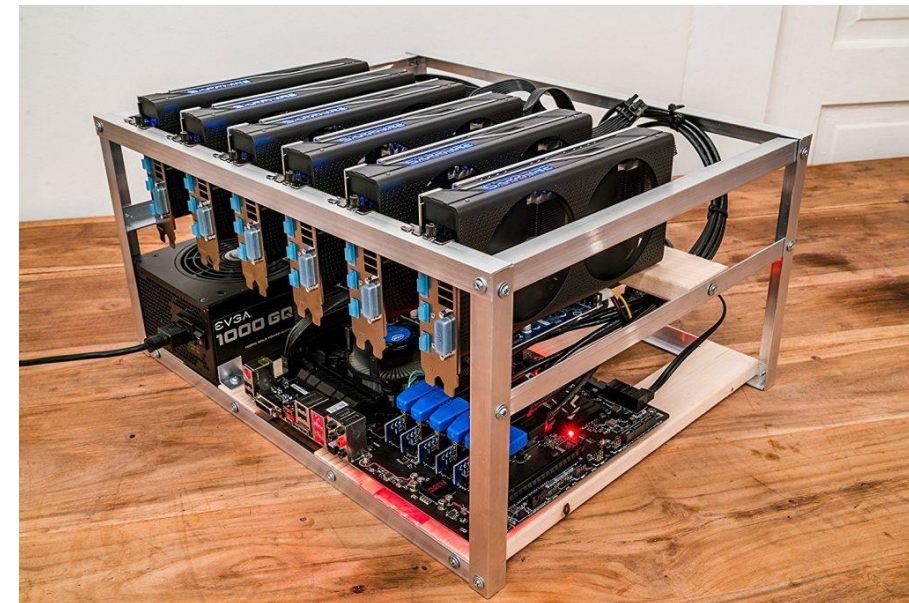
DIY PCs



Servers



GPU Rig



Every CPU Counts



Matt Mancini @vmexplorer · Mar 23

I bought these two [#cybernet](#) zpc-gx31 for \$10, got them working last weekend and now they are in the fold with [#teamvmware](#) and [#foldingathome](#) Every CPU counts! [#vCommunity](#) [#vexpert](#) [#vmug](#)



Matt Mancini @vmexplorer · 14h

My [#homelab](#) Generation 3 mobo came out of retirement and now its in the fold with [#teamvmware](#) and [#foldingathome](#) Every [#CPU](#) counts! [#vCommunity](#) [#vexpert](#) [#vmug](#) [#VMware](#)



Matt Mancini
@vmexplorer

Worked this weekend on my [#homelab](#) and prepping hosts to work with [#foldingforCoVID19](#) [#foldingathome](#)
Cheers to the [#vCommunity](#) and Go team [#vmware](#) 52737. Just waiting on parts and I'll have quite a bit ready to go! And, yes, those are power cable hanging from the ceiling :)



Common Links / Articles

- Follow:
 - <https://twitter.com/AmandaBlev>
 - <https://twitter.com/lamw>
 - https://twitter.com/hashtag/TeamVMware?src=hashtag_click
 - Use Hashtags #vmware #TeamVMware #Foldingathome #vCommunity #ForceforGood #vmug #vexpert
- [OCTO Blog](#)
- <https://covid19.wavefront.com/dashboards/fah-vmware>
- [Tinker Try \(Great Write Up and Updates\)](#)

Come one Come all – Every CPU Counts!



- You, Your neighbor, your friends, your family – Everyone with a PC can help
- Get involved, join the VMware team and be part of the Tech for Good!
- Help Others, Help them install, train them to train others, and contribute

Thank you!